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Teachers College RECORD

NOVEMBER 1931

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VOLUME XXXIII NUMBER 2

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November 1931

Report of the Accomplishments of the Institute of Educational Research on the Occasion of Its Tenth Anniversary

FOREWORD

TEN years have now passed since the Institute of Educational Research was established. During this period the original aims set forth by Dean James E. Russell have been amply fulfilled. Significant contributions to the theory of education have been made and the increase of knowledge concerning educational practices has had important influence in improving educational conditions. It has seemed fitting at this time to review the achievements of the Institute of Educational Research, which comprises the Division of Educational Psychology, the Division of Field Studies, and the Division of School Experimentation (renamed in 1928 the Institute of School Experimentation).* This issue of the TEACHERS COLLEGE RECORD is devoted to the review of these achievements. The lines of study have been numerous. When a report of them is compiled it becomes convincing evidence of the contribution to education which organized research can furnish. This issue of the RECORD becomes, in fact, a real record of the work of an important section of Teachers College.

—CHAIRMAN, Anniversary Committee of the Institute of Educational Research

* Although the Institute of Practical Arts Research, formally organized in 1930, has had an informal history of successful research for several years, its accomplishments are not reviewed in this issue.

TEACHERS COLLEGE AND RESEARCH

By JAMES E. RUSSELL

Dean Emeritus of Teachers College

This article is reprinted from the Annual Report of the Dean of Teachers College for the academic years ending June 30, 1924 (pages 5 to 8) and June 30, 1921 (pages 7 and 8).—EDITOR.

THE main purpose of Teachers College is to train for leadership in the profession of education. As one of the higher levels of vocational education, the professional school aims to fit its students for expert service in a particular field. But in addition to technical skill, which is the mainstay of the craftsman, the professional worker should have a broader and deeper knowledge, and his service should be directed by higher ideals. A professional school that has novices in training may be content to give that which will fit its students to begin where the average practitioner leaves off, but equipment for leadership must include the means of self-direction in anticipation of future needs.

The students of Teachers College are for the most part experienced teachers. They have had both the cultural and the technical training commonly required of novices in our profession. They are looking forward to the strategic positions in the more highly specialized types of educational service at home and abroad. The success of our efforts is measured not so much by what our graduates can do when they leave us, as by what they will be ten years or a generation hence. Our main problem is to predict the course of progress and to estimate the requirements at each successive stage of development.

Vocational training on all levels tends to become static. The standards are set by those who are skilled in doing the day's work. There is an old English saying that "the teacher liketh that he knoweth and seeth not the use of that he knoweth not." In modern phrase, the teacher tends to check initiative because he knows no better way. Every step in advance depends on new knowledge, new ways of using old facts, or new facts adjusted to old conditions.

The dictum once prevalent in learned circles, that all that a teacher

needs in teaching is a knowledge of his subject, has been controverted by the work of the great scholars themselves. The acquisitions to knowledge of any subject within a generation, to say nothing of what was known before, are so extensive and of such far-reaching significance that no one, however scholarly, would venture to apportion offhand those parts or phases of the subject best suited to particular ages or groups of learners. The selection of materials of instruction, their arrangement into courses of study, and the combination of courses of study into curricula, have become the subject of intensive study and investigation. Coincident with the advance of science and an inevitable result of scientific curiosity, scientific method was directed to the mind itself. The new psychology made possible the comparison of mind with mind, and the testing and measuring of intellectual capacity and achievement. Research in this direction has led to a revolution in methods of classification and promotion in our lower schools, and has raised questions never before asked as to what knowledge can best be acquired by some individuals, and the extent to which the education of such individuals is possible. It has raised questions, too, of how children learn, and of the obstacles to be overcome due to individual differences. Most of these questions still remain unanswered, and await the findings of patient investigation of a most exacting kind.

The splendid results of research in the intellectual field are a challenge to similar investigation of the emotional and volitional life. Somewhere in this field lies hidden the clue to educational aims and ideals, and to the processes that make for desired ends. Meantime, we are dependent upon empirical data, and are swayed by selfish whims. Success seems to be rated by some parents in terms of money-making. The college sets metes and bounds to the process of acquiring culture and social rank. The church prescribes the type of school that leads to salvation along denominational routes. The state wants healthy, self-supporting, patriotic citizens, and makes compulsory the schooling provided by lay boards. The eclectic, with faith in variety, says that any kind of instruction is good, provided it is well given. The individualist advocates freedom of teaching and freedom of learning, and points to Athens as the historic example of the progress that is possible when personality is given free rein. Another philosopher sees what became of Athens after it reached its

zenith, and therefore prefers the longevity of a Chinese civilization, even though it be on a lower level. Of what avail, he asks, if one does gain the whole world, if in the end he shall lose his own soul? These are but instances of points of view which confuse and confound the student of education.

While exposing our ignorance, I do not deny the value of experience and tradition in evaluating the means and materials of instruction, nor do I underrate the wisdom of the ages in fixing the aims of education. But I remind myself that the wisdom of the ages once upheld the geocentric theory of the universe. The new order made no change in the facts of the case, but it did change men's ways of thinking and acting with respect to those facts. Hence, while I do not delude myself into believing that education will ever become an exact science, I am morally certain that some of the processes of moral and social education will be scientifically determined. The facts will not be changed, but we shall look at them from a different point of view. There will still be children and materials of instruction, schools and teachers, the family, the Church, and the State; but a scientific determination of measurable facts will provide a rational basis for experimentation with ways and means of securing better results from these prime factors in education.

Teachers College has always fostered research and experimentation. At first it was necessary in order to provide reliable information for our students. Later it became an obligation for the advancement of the profession. Recently it has assumed such proportions as to warrant a special organization for its control and direction.

The Institute of Educational Research, authorized by the Trustees, February 10, 1921, is an independent organization with no responsibility for giving instruction to students, and with no obligation to conform to academic traditions. With no students, no courses of instruction, and taking no part in awarding degrees, it can devote itself wholly to whatever undertaking it chooses. For the time being, three divisions are authorized, each with its own director and staff of assistants, viz.: I. Division of Educational Psychology, Professor Thorndike, director; II. Division of School Experimentation, Professor Caldwell, director; III. Division of Field Studies, Professor Strayer, director. The Institute is governed by an Administrative

Board consisting of the directors of the divisions, the directors of the Schools of Education and Practical Arts, and the Dean of Teachers College. The Administrative Board selects certain definite problems, and appoints the persons best fitted to do the work. Appointments are made only for specific purposes and terminate when the task is done. A professor in the College or in some other institution may be selected for a particular piece of work; in that event he will be invited to undertake it, on leave of absence from his regular employment; and his services to the Institute will be paid for from its funds. A student of Teachers College or of some other institution may be appointed as an assistant when his services are needed, and he will be paid for his time, but the Institute will grant no academic credit for the time and services given. Such credit, if gained at all, must come from the faculty under which he is a candidate for a degree, and under such terms as they may determine. In other words, the Institute will choose its own problems, select its own staff, do its own work, and pay its own way. If funds are limited, it will restrict itself to few tasks; if money can be had in plenty, its undertakings will be determined only by its ability to find competent investigators.

THE VALUE OF RESEARCH IN EDUCATION

By EDWARD L. THORNDIKE

Director, Division of Educational Psychology

I SHALL not take the reader's time with evidence that research has been of value in education. Probably no well-informed student of education has any doubt on the matter. If he has, a comparison of recent books about education with those of twenty or forty years ago, or of present instruments of instruction with the textbooks of twenty or forty years ago, should remove his doubts. The extension of scientific investigation to philanthropic work, business, education, and other fields of human engineering, though very recent and scanty in facilities and personnel, has demonstrated its effectiveness. I address myself to the more profitable task of suggesting ways in which it may be of greater value.

The first is to extend it to more fundamental questions. In the case of linguistic education, we should, for example, not remain content with discovering better ways of teaching reading and composition, better ways of learning a foreign language, better tests of capacity and achievement, and the like. We should also bring the forces of all the relevant sciences to bear on the problems of the nature of language and other similar systems of symbols, the ways in which they change, and especially the ways in which they improve, and the manner in which they live and behave. In the case of so-called character education we should not only collect case histories of problem children, test and compare methods of treatment, devise better methods of diagnosis, analyze significant forms of conduct and the like, but should also study the springs of conduct in man and other mammals, and the processes by which habits, attitudes, interests, and ideals are formed, reformed, weakened, upset, and distorted. In almost every field of education, we may profitably start researches at deeper levels.

The second is to affiliate our researches more closely with those

of biology, anthropology, sociology, psychology, economics, history, business, government, and other branches of the study of man. We are in danger of becoming provincial. There is a temptation to operate methods of educational measurement and educational experimentation in isolation in a way that is likely to be relatively sterile. Biologists are reaching over into chemistry and physics so as to do better justice to their problems, and we should follow their example. Until very recently, almost all research workers in education did have, by the force of circumstances, mastery in at least one of these other fields. They need it now more than ever. The best results may be expected if the necessary coöperation can all go on in the brain of some one worker who masters what he needs. If it cannot, the coöperation of several will be required. Education should especially support research in the more fundamental of these sciences of man. Their discoveries will probably always profit education more than will the discoveries of educational science itself.

The third way to increase the value of research in education is to treat the research workers more wisely, and in particular, to encourage, or at least permit, a reasonable catholicity. Sound productive work may be done in educational research by methods varying all the way from abstract symbolisms, like those of mathematical physics, to concrete factual observations—from the most elaborate experiments to simple reflection. Just now we seem to have too little shrewd observation. The number of pregnant observations reported year by year seems to be too small in comparison with the number of systematic tests or surveys or experiments. We also are perhaps too uncharitable toward the investigator who advances ill-supported ideas and theories, or over-ambitious ideas and theories. I confess to an irritation at such, accompanied at times by the feeling that I could suggest better ideas and theories if such were desirable in the case at hand. But it may be disheartening to an alert, fertile, and optimistic intellect to restrict him to the presentation of evidence and the computations of certainties and probabilities. Perhaps an allowance, say of one suggestion for every score of settled facts, should be made!

It is to the credit of scientific method and to the great advantage of the world as a whole that by sound methods and industry an investigator of mediocre ability may do very useful work. But

in the long run the rapid advancement of any science will require gifted intellects. To such intellects almost anything should be allowed or forgiven. And this makes necessary a benevolent personal catholicity in the treatment of these research workers. They will not often need forgiveness, since they will usually be loyal, coöperative, patient, sensible, and well-endowed with minor virtues. But if one of them is selfish, petulant, temperamental, or eccentric, we should suffer him gladly for the good he does. Dr. James E. Russell once said that sheer ability was one thing that was important because it was irreplaceable—had no substitute; and that is especially true of creative ability in research. Those in charge of educational research in universities, state and city systems, and elsewhere should treasure great ability even at considerable discomfort to themselves.

The fourth suggestion for increasing the value of research in education is one made by Whitney in the case of research in engineering, in words to this effect: "It is good to force nature to answer your questions, but it is still better to modestly study her ways." It is good to seek for facts that we need in order to decide what to teach, to whom to teach it, when to teach it, and how to teach it. But it may be better to use our insight and ingenuity in trying to see what learners are and how they learn. It is good to compare this and that popular system of management with careful and adequate tests to determine the results of each. But it may be better to try to penetrate into the mysteries of management with no ulterior motive, keeping our minds sensitive to everything that management has to tell us, including things nobody has bothered about or even thought of. Certain great discoveries in science have been made almost or quite by accident, but it was a gifted scientist to whom the accident happened. He was ready to be taught by nature, even by accidents. We should not be so bound up in the problem as we see it as to be insensitive to the facts as they really are. This, I fear, is not very clear, and may be taken as an advocacy of a mystical contemplation of educational processes or as a mere watchful waiting in the hope that some fact of consequence will turn up. That would be folly. What I am trying to describe is a most active, alert, resourceful, and even aggressive sort of investigation, which is, however, devotedly attached to the reality studied, subservient to it in a sense, and sensitive to every significant feature in it.

In these ways educational research may do better, but if able persons undertake it in the spirit of science, they will do well by whatever methods they use. Disinterested curiosity and impartial reflection and rigorous verification are sure to advance knowledge, and the advancement of knowledge is sure to benefit practice. This is true in education, for it is true everywhere.

THE RESULTS OF THE WORK OF THE DIVISION OF PSYCHOLOGY

THE major investigations made by the Division of Psychology of the Institute of Educational Research since its organization, and the resulting publications,[1] have been as shown below. The publications which are marked with an asterisk were done by individuals, but with more or less aid from the facilities of the Institute.

A. THE PSYCHOLOGY OF ALGEBRA

This investigation included the nature of algebraic abilities, the means of measuring them, their constitution, the amount and distribution of practice required to bring them to the desired degree of strength, the conditions favorable to their development, and the like.

"An Experiment in Learning an Abstract Subject." E. L. Thorndike and C. B. Upton. *Journal of Educational Psychology*, 13: 321-329, 1922.

*"The Psychology of Errors in Algebra." P. M. Symonds. *The Mathematics Teacher*, 15: 93-104, 1922.

The Psychology of Algebra. E. L. Thorndike, M. V. Cobb, J. S. Orleans, P. M. Symonds, Elva Wald, and Ella Woodyard. The Macmillan Company, 1923. xi + 483 pp.

Some of the material presented in this volume appeared also in articles in the *Journal of Educational Psychology, The School Review, School Science and Mathematics, The Mathematics Teacher, The Journal of Experimental Psychology,* and *School and Society.*

**Special Disability in Algebra.* P. M. Symonds. Teachers College, Columbia University, Contributions to Education, No. 132, 1923. vii + 88 pp.

B. STUDIES IN VOCATIONAL GUIDANCE

This investigation studied improved means of educational and vocational guidance for boys and girls from twelve to sixteen, the special purpose being to provide teachers and social workers with convenient means for measuring certain abilities related to success in school work, office work, and work at skilled and semi-skilled trades.

[1] I was asked to add notes about these publications, stating in a general way their contributions to knowledge and practice. This is impossible within our limits of space, which are reached by the statements describing the investigations and the list of the publications themselves.—E. L. T.

In 1922 and 1923, 1,753 pupils then in Grade 8 were given a comprehensive examination such as may be expected to improve educational and vocational guidance. It consisted of (1) tests of so-called general intelligence, (2) tests of accuracy and speed in various forms of clerical work, and (3) tests of skill in handwork. With the aid of a grant from the Commonwealth Fund, the careers of these children in school or in industry have been followed to see how far the predictions and recommendations made on the basis of the examination have proved correct and helpful. Many visits have been made to the home of each child or to the school, if the child is still attending school. They are being followed through ten years, at the end of which both a school history and an industrial history will be available for over a thousand of them. The school histories already confirm the expectation from previous studies that the intelligence tests predict school success sufficiently accurately to be of notable practical service. They indicate that if philanthropic motives lead communities to require school attendance to a given age or to a given grade or to some combined age-grade station, a new type of education should be provided for the less intellectual third of the children. From much of the present curricula for Grades 6 to 10, these children may learn only discouragement and failure.

Tests for Vocational Guidance of Children Thirteen to Sixteen. H. A. Toops. Teachers College, Columbia University, Contributions to Education, No. 136. xii + 159 pp. Publication of the results of the complete investigation is expected in 1932.

*"Theoretical Principles Underlying Tests and Measurements in Vocational Guidance." H. A. Toops. *Proceedings and Addresses, National Education Association,* 63: 873-889, 1925.

*"Some Fancies and Facts about Human Abilities and Their Significance for Trade Education." H. A. Toops. *Ungraded,* 9: 1-14, 1923.

C. NEW-TYPE EXAMINATIONS IN ALGEBRA AND ANCIENT HISTORY

This investigation included the preparation of so-called "new-type" examinations for consideration and trial by the College Entrance Examination Board, undertaken at the request of its executive committee. A series of forty examinations in elementary algebra was planned, to be of equal difficulty, of known reliability and significance, and free from the "personal equations" of the examiners. Eight of

these were constructed in detail, and four have been subjected to trial in the case of a thousand or more pupils. A similar series of examinations was constructed in ancient history.

Algebra Tests: to Quadratics, Forms A, B, C, and D.

Algebra Tests: Quadratics and Beyond, Forms A, B, C, and D. By the Staff of the Institute of Educational Research, Teachers College, 1921. Published by the Institute of Educational Research.

The I. E. R. College Entrance Examination in Ancient History, Form A. Ben D. Wood. Published by the Institute of Educational Research, Teachers College, 1921.

D. COÖPERATIVE INVESTIGATIONS FOR THE CLASSICAL INQUIRY

The Institute coöperated with the American Classical League in its study of the teaching of Latin. We organized and analyzed the data collected by the League on the influence of the first year's study of Latin upon range of English vocabulary, and upon logic and carefulness in reading English.

Dr. Grinstead and his coworkers made a census of the occurrence of each word in over five thousand ordinary book-pages (1,700,000 words in all), and thereby extended the Thorndike list of the 10,000 most important words in English. He showed that, except for the five hundred commonest words of all, over half of the words at any level of importance are of Latin derivation. A pupil learning Latin words may thus in a very real sense be said to be learning English. The gains in knowledge of English from the actual present study of Latin are, however, not large. Tests of extent of English vocabulary and of ability to comprehend paragraphs were given to pupils studying Latin and to pupils of the same initial ability not studying Latin. The tests occurred at the beginning of Grade 9, six months later, a year later, and two years later. The gain of the "Latins" was very little greater than that of the "non-Latins" in either trait, about 21 to 20.

The bulk of this work, carried on by Dr. Wren J. Grinstead, Mrs. G. J. Ruger, Miss Ethel Newcomb, and Miss Mabel Wilcox, was incorporated in the *Report of the Classical Inquiry*. In addition, the following articles were published.

"The Influence of First Year Latin upon Range in English Vocabulary." E. L. Thorndike. *School and Society*, 17:82-84, 1923.

"The Influence of First Year Latin upon Ability to Read English." E. L. Thorndike. *School and Society,* 17: 165-168, 1923.

"The Effect of First Year Latin upon Knowledge of English Words of Latin Derivation. E. L. Thorndike and G. J. Ruger. *School and Society,* 18: 260-270, 1923.

"Possible Transfer of the Study of Latin to English Vocabulary." J. S. Orleans. *School and Society,* 16: 559-560, 1922.

"The Gains Made in Ability in English by Pupils Who Study Latin and by Pupils Who Do Not." E. L. Thorndike. *School and Society,* 18: 690, 1923.

"On the Sources of the English Vocabulary." W. J. Grinstead. *Teachers College Record,* 26: 32-46, 1924.

E. FUNDAMENTAL PRINCIPLES IN MENTAL MEASUREMENT

The results of the investigation of fundamental principles in mental measurement include:

1. A thorough examination of the entire problem of measuring intellect, bringing to bear extensive experiments and critical analyses in connection with the following topics:

1. The present status of the measurement of intelligence.
2. The measurement of difficulty.
3. The measurement of intellectual difficulty.
4. The measurement of the intellectual difficulty of a single brief task.
5. Measurement by a consensus of experts.
6. Levels of intellect.
7. A scale for intellect with equality of units.
8. The absolute zero of intellect.
9. Measurements of altitude or level of intellect, width or range of intellect, and area or total capacity of intellect.
10. The interrelations of altitude, width, and area of intellect.
11. The significance of scores in the intelligence examinations now in use.
12. The transformation of arbitrary scores into scales with equal units.
13. The relation of intellect to age.
14. The nature of intellect.
15. The form of distribution of intellect in man.
16. Applications to mental measurements in general.

This material has been published in a volume entitled *The Measurement of Intelligence.* The techniques presented are, in the main, applicable to the measurement of mental abilities in general.

II. A series of graded tests forming an instrument by which precise measurements of the "level" or "altitude" of certain forms of intellect may be secured in terms of truly equal units and from an approximate absolute zero. This series (now well known as the CAVD test) is useful, first, to interpret and standardize the measurements obtained by the many intelligence examinations now in use, and second, to improve the construction of all such examinations in the future.

III. An inventory of several thousand tasks or test elements which are suitable for use in intelligence examinations, with a measurement of the difficulty of each. This inventory will spare future workers in this field much labor and will improve the examinations made. This inventory is available in mimeographed form.

IV. A series of special investigations and reports closely allied to the general report, by Dr. J. R. Clark, Dr. L. M. Hunsicker, Dr. J. S. Orleans, Dr. J. W. Tilton, and Dr. Ella Woodyard. The Institute coöperated in the case of each of these by furnishing materials and guidance.

"The Construction and Interpretation of Correlation Tables." E. L. Thorndike. *Journal of Educational Research,* 7: 199-212, 1923.

"The Variability of an Individual in Repetitions of the Same Task." E. L. Thorndike. *Journal of Experimental Psychology,* 6: 161-167, 1923.

"The Selection of Tasks of Equal Difficulty by a Consensus of Opinion." E. L. Thorndike, E. O. Bregman, and M. V. Cobb. *Journal of Educational Research,* 9: 133-139, 1924.

**Content and Form in Tests of Intelligence.* E. M. Bailor. Teachers College, Columbia University, Contributions to Education, No. 162, 1924. x + 74 pp.

**A Study of Intelligence Test Elements.* L. E. Vincent. Teachers College, Columbia University, Contributions to Education, No. 152, 1924. vii + 36 pp.

"On the Form of Distribution of Intellect in the Ninth Grade." E. L. Thorndike and E. O. Bregman. *Journal of Educational Research,* 10: 271-278, 1924.

**A Study of the Nature of Difficulty.* J. S. Orleans. Teachers College, Columbia University, Contributions to Education, No. 206, 1926. v + 39 pp.

**Relations of Speed, Range, and Level to Scores on Intelligence Tests.* John R. Clark. Published by the author, New York, 1925.

**A Study of the Relationships between Rate and Ability.* L. M. Hunsicker. Teachers College, Columbia University, Contributions to Education, No. 185, 1925. vii + 52 pp.

**The Relation Between Association and the Higher Mental Processes.* J. W. Tilton. Teachers College, Columbia University, Contributions to Education, No. 218, 1926. vii + 55 pp.

**The Effect of Time upon Variability.* Ella Woodyard. Teachers College, Columbia University, Contributions to Education, No. 216, 1926. v + 56 pp.

The Measurement of Intelligence. E. L. Thorndike, E. O. Bregman, M. V. Cobb, Ella Woodyard, and the Staff of the Division of Psychology. Teachers College, Columbia University, 1926. xxvi + 616 pp.

F. MENTAL DISCIPLINE IN HIGH-SCHOOL STUDIES

Over ten thousand high school pupils were measured in May, 1922, and again in May, 1923, in respect to their abilities in selective and relational thinking, generalization, and organization. A record was taken of what subjects each pupil had studied in the intervening year. We thus have means of answering the question, "What difference did it make to a pupil's gain in general intellectual ability during the year, whether he took geometry or history, Latin or biology, chemistry or cooking?" This is the most extensive investigation of the disciplinary values of studies that has been made.

The results are in pronounced opposition to the traditional view that certain subjects produce much more general improvement in ability to think than others; and that, among the subjects taught widely in high schools, algebra, geometry, and Latin are the three that do this to the greatest extent. On the contrary, a year's work made up of arithmetic, bookkeeping, stenography, and typewriting will result in a gain almost as great as that due to a year's work in Latin, algebra, and geometry. Studying physics and chemistry appears to be more beneficial to general intellectual character than studying Latin or mathematics. The chief factor determining the amount of gain is not what is studied but who studies it. Very able pupils who take cooking, sewing, gymnastics, and dramatic art for a year will show a greater gain in intellectual power than very dull pupils who study the most favorable combination of subjects. In fact, the very able pupils would be superior in gain even if they had to stay out of school that year to work. The following articles were published.

"Instruments for Measuring the Disciplinary Values of Studies." E. L. Thorndike. *Journal of Educational Research,* 5: 269-279, 1922.

"The Diversity of High School Students' Programs." E. L. Thorndike and Eleanor Robinson. *Teachers College Record,* 24: 111-121, 1923.

"Intelligence Scores of Colored Pupils in High Schools." E. L. Thorndike. *School and Society,* 18: 569-570, 1923.

"On the Improvement in Intelligence Scores from Fourteen to Eighteen." E. L. Thorndike. *Journal of Educational Psychology,* 14: 513-516, 1923.

"Mental Discipline in High School Studies." E. L. Thorndike and the Staff of the Institute of Educational Research. *Journal of Educational Psychology,* 15: 1-22 and 83-98, 1924.

"The Disciplinary Values of Studies in the Opinion of Students." E. L. Thorndike. *Teachers College Record,* 25: 134-143, 1924.

"A Second Study of Mental Discipline in High School Studies." C. R. Brolyer, E. L. Thorndike, and Ella Woodyard. *Journal of Educational Psychology,* 18: 377-404, 1927.

G. THE PSYCHOLOGY AND EDUCATION OF GIFTED CHILDREN

In coöperation with Mr. Jacob Theobald and Miss Jane Monahan, of Public School 165, Manhattan, Miss Cobb, Dr. Taylor, Dr. L. S. Hollingworth, and Dr. Orleans conducted an experiment in the education of young children who are highly endowed intellectually. The natures and needs of such children were studied intensively, and various forms of subject matter and methods of instruction were evaluated for use at high levels of intellect. More specifically, studies were made of mental and physical growth, of size, strength, speed, special talents, achievements, personality, and heredity. In the study of needs, additions to the standard curriculum have been introduced experimentally. The main experimental work with these gifted children, begun in 1922, was brought to completion in 1925, but Dr. Hollingworth has been able to continue the collection of data relating to development and achievement through high school and in college from a considerable number of them.

"The Special Opportunity Class for Gifted Children, Public School 165, Manhattan." M. V. Cobb et al. *Ungraded,* 9: 121-128, 1923.

"Stanford Achievement Tests with a Group of Gifted Children." M. V. Cobb and G. A. Taylor. *Twenty-third Yearbook of the National Society for the Study of Education,* 275-289, 1924.

"Size and Strength of Children Who Test above 135 I.Q." L. S. Holling-

worth and G. A. Taylor. *Twenty-third Yearbook of the National Society for the Study of Education,* 221-237, 1924.

"Introduction to Biography for Young Children Who Test above 150 I.Q. (Stanford-Binet)." L. S. Hollingworth. *Teachers College Record,* 26:277-287, 1924.

"The Regression of Siblings of Children Who Test at or above 135 I.Q. (Stanford-Binet)." M. V. Cobb and L. S. Hollingworth. *Journal of Educational Psychology,* 16: 1-7, 1925.

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*"The Daily Programs of Thirty Gifted Children." Genevieve L. Coy. *Journal of Genetic Psychology,* 38: 123-138, 1930.

*"Das Kind besonders höher Intelligenz als Sonder-problem der sozialen Einordnung." L. S. Hollingworth. (Translated by S. Parker.) *Proceedings of the First International Congress for Mental Hygiene,* Washington, D. C., 1930.

**A Study of Young Gifted Children in Senior High Schools.* Edna E. Lamson. Teachers College, Columbia University, Contributions to Education, No. 424, 1930. viii + 117 pp.

*"Juvenile Achievement as Related to Size." L. S. Hollingworth and Howard A. Gray. *Teachers College Record,* 32: 236-244, 1930.

*"Achievement of Gifted Children Enrolled and Not Enrolled in Special Opportunity Classes." Howard A. Gray and L. S. Hollingworth. *Journal of Educational Research.* (Accepted for publication, but not yet printed. Will be printed in 1931 or 1932.)

*"Personality Development of Special-Class Children." L. S. Hollingworth. *Schoolmen's Week Proceedings,* University of Pennsylvania, 31: 442-446, 1931.

H. CHARACTER EDUCATION

The study of character education was the most extensive of our investigations, but the three volumes by Dr. Hartshorne and Dr. May reporting its results are so well known that no description of it is needed here. The formal final report appears in three volumes as follows:

Studies in Deceit. H. Hartshorne and M. A. May. The Macmillan Company, 1928. xxi + 414 pp.; viii + 306 pp.

Studies in Service and Self-Control. H. Hartshorne, M. A. May, and J. B. Maller. The Macmillan Company, 1929. xxiii + 559 pp.

Studies in the Organization of Character. H. Hartshorne, M. A. May, and F. K. Shuttleworth. The Macmillan Company, 1930. xvi + 503 pp.

Other publications are the following:

"Objective Methods of Measuring Character." M. A. May and H. Hartshorne. *Pedagogical Seminary*, 32: 45-67, 1925.

"First Steps Toward a Scale for Measuring Attitudes." M. A. May and H. Hartshorne. *Journal of Educational Psychology*, 17: 145-162, 1926.

"Personality and Character Tests." M. A. May and H. Hartshorne. *Psychological Bulletin*, 23: 395-411, 1926.

**The Social-Ethical Significance of Vocabulary.* Gladys Schwesinger. Teachers College, Columbia University, Contributions to Education, No. 211, 1926. ix + 73 pp.

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*"Slang as an Indication of Character." Gladys Schwesinger. *Journal of Applied Psychology*, 10: 245-263, 1926.

Six articles in *Religious Education*, 1926 and 1927, on the general subject of "Testing the Knowledge of Right and Wrong," subsequently published under this title as Monograph No. 1, by the Religious Education Association. H. Hartshorne, M. A. May, and Others.

"Personality and Character Tests." M. A. May, H. Hartshorne, and R. E. Welty. *Psychological Bulletin* 24: 418-435, 1927.

"Experimental Studies in Moral Education." M. A. May and H. Hartshorne. *Religious Education*, 12: 712-715, 1927.

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*"What We Know about Character Education." M. A. May. *Association of American Colleges Bulletin*, 14: 187-197, 1928.

"What Science Offers on Character Education." M. A. May. *Religious Education*, 23: 566-583, 1928.

*"A Group Test of Home Environment." E. M. Burdick. *Archives of Psychology*, No. 101, 1928. iii + 115 pp.

**Measurement of Socio-Economic Status.* V. M. Sims. Public School Publishing Company, 1928.

**Score Card for Measuring Socio-Economic Status.* V. M. Sims. Public School Publishing Company, 1928. v + 33 pp.

*"An Experimental Study in Certain Coöperative Tendencies." J. B. Maller. *Religious Education*, 23: 361-363, 1928.

"Personality and Character Tests." M. A. May, H. Hartshorne, and R. E. Welty. *Psychological Bulletin*, 26: 418-444, 1929.

*"A Method for Correcting Coefficients of Correlations for Heterogeneity in the Data." M. A. May. *Journal of Educational Psychology*, 20: 417-423, 1929.

*"A Few Principles of Character Education." H. Hartshorne. *Religious Education*, 24: 813-815, 1929.

Coöperation and Competition. J. B. Maller. Teachers College, Columbia University, Contributions to Education, No. 384, 1929. x + 176 pp.

A Personal Attitudes Test for Boys. L. Sweet. Association Press, 1929.

The C. E. I. Tests with Accompanying Manuals. H. Hartshorne. Association Press, 1930.

Two articles constituting a Summary of the Work of the Character Education Inquiry. H. Hartshorne and M. A. May. *Religious Education*, 25: 607-619 and 754-762, 1930.

*"Sociological Implications of the Character Education Inquiry." H. Hartshorne. *American Journal of Sociology*, 36: 251-262, 1930.

*"Recent Improvements in Devices for Rating Character." M. A. May and H. Hartshorne. *Journal of Social Psychology*, 1: 66-77, 1930.

"Science and Character." H. Hartshorne. *Religious Education*, 25: 546-554, 1930.

•"A Comprehensive Plan for Measuring Personality." M. A. May. *Proceedings of the Ninth International Congress of Psychology*, 298-300, 1930.

•"Character Education in the Schools." M. A. May. *Proceedings of the Ohio State Educational Conference. Ohio State University Bulletin*, 35: 179-189, 1930.

I. THE PSYCHOLOGY OF INTERNATIONAL AUXILIARY LANGUAGES

The investigation of the learning of a language, supported by a grant from the International Auxiliary Language Association, produced a series of tests for measuring ability in the two leading auxiliary languages, Esperanto and Ido. These tests were given to as many students of these languages as were available.

The investigation also dealt with the special problems of learning the grammar and vocabulary (including the formation of derivatives and compound words) of a language. Special attention was also given to the logical aspects of languages notably the grammar and the use of prefixes and suffixes.

A report of the early work was published in 1927 by the International Auxiliary Language Association, as follows:

Progress in Learning an Auxiliary Language. E. L. Thorndike and L. H. V. Kennon.

The final report or a summary of it will be published at an early date.

There has also appeared a short paper:

"On the Learning of Rules in the Study of a Foreign Language." E. L. Thorndike. *The German Quarterly*, 4: 89-95, 1931.

J. ADULT LEARNING

The investigation on adult learning discovered that from about the age of twenty-five on, there is a falling off in ability to learn, but it is so small as to offer no discouragement to practical enterprises in adult education. On the contrary, our findings suggested the wisdom of facing frankly a choice between, on the one hand, the indiscriminate addition of more and more education for all boys and girls in their teens and, on the other hand, the provision of educational

facilities at all ages for those who really desire them and can use them for the common good.

Adult Learning. E. L. Thorndike, E. O. Bregman, J. W. Tilton, and Ella Woodyard. The Macmillan Company, 1928. x + 335 pp.

"The Relation of Earning Power to Age in Professional Workers under Conditions of Nearly Free Competition." E. L. Thorndike and Ella Woodyard. *Journal of the American Statistical Association*, 21: 293-309, 1926.

"The Effect of Violent Price-Fluctuations Upon the Salaries of Clergymen." E. L. Thorndike and Ella Woodyard. *Journal of the American Statistical Association*, 22: 66-74, 1927.

K. THE FUNDAMENTALS OF LEARNING

A full report of this work is being published in a volume of some seven hundred pages under the following title and authorship:

The Fundamentals of Learning. E. L. Thorndike and the Staff of the Division of Psychology of the Institute of Educational Research. Teachers College, Columbia University, 1931.

Parts of it have already appeared in the *American Journal of Psychology, The Journal of Experimental Psychology,* and the *Proceedings of the National Academy of Science.*

"The Refractory Period in Associative Processes." E. L. Thorndike. *Psychological Review*, 34: 234-236, 1927.

**The Influence of Regularly Interpolated Time Intervals upon Subsequent Learning.* Irving Lorge. Teachers College, Columbia University, Contributions to Education, No. 438, 1930. vi + 57 pp.

L. STUDIES IN ENGLISH VOCABULARY AND ENGLISH CONSTRUCTIONS

One of the first projects undertaken was an inventory and census of English construction. This census provides knowledge of the importance of each construction (save the rarest). The results should improve the means and methods used in teaching reading and composition both to natives and to foreigners.

"Difficulty, Reliability, and Grade Achievements in a Test of English Vocabulary." E. L. Thorndike and P. M. Symonds. *Teachers College Record*, 24: 438-445, 1923.

"An Inventory of English Constructions with Measures of Their Importance." E. L. Thorndike, with the assistance of E. Newcomb and L. H. V. Kennon. *Teachers College Record*, 28: 580-610, 1927.

M. INTELLIGENCE TESTS FOR COLLEGE GRADUATES

At the request of the faculty of the Columbia University School of Law, this Division became responsible for the preparation of the General Placement Examinations required of all candidates for admission to the Law School from June, 1928, on. This action by the law faculty was an outcome of their very careful study of the whole problem of the choice, from an already highly selected group—all college graduates—of those best deserving the opportunities of the Law School. The classes graduating in 1925, 1926, and 1927 had taken informally, at or near the time of their admission to the Law School, a set of tests arranged by Professor Thorndike, and the predictive value of these tests was studied along with all other available data. The preparation of suitable tests for this purpose, for a group already so highly selected and so far advanced in education, is obviously a task of extraordinary difficulty. Its importance, however, equals its difficulty.

We hope to make the Capacity Tests for students of law available to law schools throughout the country by the spring of 1932, providing annual tests, different in content, but equivalent in significance and difficulty, for use, under suitable restrictions, by any institution desirous of exact information concerning the caliber of its student body.

It would be interesting to add a list of the publications of past members of the staff of this Division of the Institute. It would be extensive and of very high quality. We hope that the opportunities of the Institute were of some value in stimulating and encouraging these workers.

THE WORK OF THE DIVISION OF FIELD STUDIES

By GEORGE D. STRAYER

Director, Division of Field Studies

THE work of the Division of Field Studies during the past ten years has consisted primarily of surveys of state, city, and other local systems of public education. These inquiries have been undertaken upon the invitation of the state or local board of education or other body created by the state legislature. With a single exception, they have been paid for out of public funds. They have offered an opportunity for advanced students of educational administration to engage in a kind of field work which offers most significant professional training.

A survey is an evaluation of current practice. In its conduct, such measures as are available are applied to various aspects of the school system. Principles of administration which have been established are applied to the local community. A program for the development of the school system is the result that the survey seeks to achieve. This program must of necessity conform to the laws which govern the administration of schools in the area under inquiry or must suggest modifications in the law which will, in the judgment of those responsible for the undertaking, make for the improvement of the educational system.

The problems of the survey demand the application of the scientific knowledge which the student has come to command in his study of educational administration in the university. Each community studied has its peculiar problems of organization and administration, but they are all subject to review in the light of well-established principles. The survey seeks to point out the modifications in school administration and organization which promise to add to the efficiency of the service. It is concerned, as well, with procedures which will make for economy.

Among the specific problems which every survey has to answer are

those which are concerned with the organization of the supervisory staff, the business administration of the schools, the financing of the schools, the planning, construction, and maintenance of school buildings, the development of an adequate attendance and health service, the tenure, improvement, payment, and retirement of personnel, the classification and progress of children, the development of curricula and of courses of study adjusted to the needs of individual pupils, the supervision of instruction, and the relation of the school to the community.

Students who participate in the work of the survey have commonly had a year or more of intensive training in the field of administration before undertaking field work. When the particular piece of work to be done is brought to their attention, they spend some weeks under the careful supervision of members of the staff in the development of a program of work to be done, particularly as it has to do with the gathering of data in the field. They are then taken to the community in which the survey is undertaken, and there work in the assembling of facts concerning the school system which will enable them and those who direct their activities to evaluate the work being done.

In the assembling of data, techniques which have been mastered in the students' earlier professional training are applied. For example, score cards for the measurement of school buildings, check lists having to do with business procedures and with school organization, standardized tests for the measurement of achievement of children in school subjects, and the like, are applied under the direction of members of the staff of Teachers College.

After the necessary data have been assembled, the student, always under the supervision of a member of the staff, seeks to organize these data in the light of the major problems of administration and with a view to securing a sound estimate of the efficiency of the school system. This work eventuates in an attempt to propose the solution of the problems confronting the school system.

Students work in groups, report their findings to the whole body of field workers engaged in the undertaking, and have their work criticized by members of the staff. After sound solutions have been developed, they participate in the formulation of a report. This is submitted to members of the staff who use it in the preparation of the final report.

Surveys not only have been useful in the application of techniques and procedures developed by students of the science of education, but have also been most significant in discovering the need for new techniques. Many students have come out of this type of experience with a keen appreciation of the need of further scientific inquiry in the field of educational administration. The majority of our students during the past ten years have found the problems which were to furnish the subjects for their dissertations while engaged in field work. Not infrequently valuable data are assembled in successive surveys after the problem is clearly before the student and his faculty adviser.

Students of administration in Teachers College have repeatedly expressed their satisfaction with the training received in the work of the survey. Superintendents, members of boards of education, and public-spirited citizens continue to seek this type of service because of its worth to the community.

Men who are preparing for work as school executives need first-hand contact with schools and school systems. They must learn to apply the principles of administration and the techniques of their calling in real situations. The professional training of the superintendent of schools has much in common with the training of men for other professional service. The school survey corresponds to the field work undertaken in engineering or to the work of the medical student in the hospital. As is the case in other professions, there are those for whom this experience means primarily a mastery of the techniques of their profession. There are those other students who discover by virtue of this experience the need of further scientific inquiry and are stimulated to undertake it.

SCHOOL SURVEYS BY THE DIVISION OF FIELD STUDIES

THE surveys of school systems which have been conducted by the Division of Field Studies have served a number of valuable purposes. They have offered an opportunity to develop techniques for measuring the effectiveness of various phases of school organization and administration, and to apply these techniques in practical situations. They have substantially contributed to the training of a considerable number of advanced students of educational administration by offering them an opportunity, working under expert guidance, to apply the principles of administration and the methods of investigation which they have come to command in the earlier part of their courses. They have offered individual school systems sound bases for future development and have stimulated growth in the directions recommended.

Further, the school survey does not end locally. The methods of inquiry developed and the educational principles enunciated soon become known to other school systems and become the bases for advances on their part. There is justification for believing that the survey movement has exercised an important influence for educational advance throughout the nation.

EFFECT OF SCHOOL SURVEYS

The most serious effort which has been made to determine the effect of school surveys is Caswell's study.[1] This investigation used a carefully devised check list to secure the judgments of seventy-three superintendents of schools in systems surveyed since 1913, as to the effect of these surveys. The evidence assembled indicated that the surveys had been potent in effecting desirable educational changes in all phases of school administration.

This investigation assembled data which indicated that the surveys in many of the cities had "contributed in a significant manner" to effect important changes in twelve items of school organization. For

[1] Hollis Leland Caswell. *City and School Surveys.* Bureau of Publications, Teachers College, Columbia University, Contributions to Education, No. 358. 1929. 130 pp.

example, surveys were reported as responsible for revisions of state laws essential to changes in local organization; desirable improvements had been brought about in the size, term of office, and method of election of school boards; and the relationship of the municipal government to the financing of schools had been placed on a sound basis.

Caswell's investigation cites the survey of Providence, Rhode Island, conducted by the Division of Field Studies, as an outstanding example of the effect of a survey upon the general organization of a school system. He concludes:

> Nine of twelve suggested changes resulted directly from the survey in Providence: State laws were amended to permit changes in the school organization; the schools were made completely fiscally independent; a board of thirty-three members was reduced to seven; board members were elected at large rather than by wards; the term of board members was lengthened to six years; the size of the school district was increased; the planning of school buildings was taken from city authorities and given to school authorities; the school health service was separated from the city health department; and finally, school employees not formerly responsible to the superintendent of schools were made directly responsible to him.[2]

Caswell's investigation also presents evidence of the effect of school surveys in a number of other phases of educational development. It was reported that surveys brought about a clarification of the duties of school boards, and of those of superintendents of schools; that they resulted in the installation of improved record and accounting systems, in the development of standards for the purchase of supplies, and in effecting economies in purchasing supplies and letting insurance; that school surveys had encouraged the development of adequate and competent administrative and supervisory staffs; and that they had influenced the adoption of sound standards and practices affecting the teaching personnel and had resulted in raising the qualifications of teachers.

In the important item of curriculum revision it was estimated from the reports of the superintendents of schools that "surveys have been responsible for approximately seventy per cent of the curriculum revision programs undertaken" in the school systems surveyed. There was also "clear evidence that surveys have contributed in an

[2] *Ibid.*, page 59.

important way to the development of the proper machinery for furthering a health and physical education program."

No phase of school administration has been more vitally influenced by the school survey movement than that concerned with the development of modern school plants. Sound methods of plant appraisal and planning have probably been advanced more by the survey movement than by any other factor. The evidence furnished by the superintendents of schools in the cities studied by Caswell reveals that these school systems have been influenced by surveys to adopt definite and planned building programs, to purchase adequate school sites, to construct their buildings according to sound standards, and otherwise to modernize their plant programs. The conclusion is justified that much of the progress made in developing modern school plants in the cities surveyed "resulted directly or indirectly from the surveys."

The judgments collected by Caswell from the superintendents of schools located in seventy-three cities surveyed since 1913 seem to justify his general conclusion that:

> . . . surveys have exerted a vital influence in developing the educational programs of this group of cities.

SPECIAL EXAMPLES OF ADVANCES BROUGHT ABOUT AS A RESULT OF SURVEYS

If space permitted, it would be possible to report progress in the case of every school system that has been surveyed, directly in line with the recommendations made by the survey staff. Three examples are given below. In each case the superintendent of schools reports the progress that has been made and suggests the relationship of the development of his school system to the work of the survey.

Baltimore Survey

Important evidence is presented in the 1930 report of David E. Weglein, Superintendent of Baltimore Schools, as to the effect of the survey made of that city in 1921 by the Division of Field Studies. This report,[8] under the heading *Changes Since the Survey*, devotes ninety-four pages to a detailed analysis of the recommendations of the survey and of the progress made in carrying them out. The report begins by stating that:

[8] *One Hundred and First Annual Report of the Board of School Commissioners of Baltimore City.*

> For Baltimore, the Strayer Survey served as a stimulus to a greater amount of self-examination of its objectives and procedures. It furnished a vision of what the system of public education in Baltimore might become. It set up new and better standards. It opened a way for the school people in Baltimore to improve their techniques in all lines of endeavor by showing them how to evaluate these techniques objectively.[4]

The report then takes up in detail the recommendations of the survey and offers evidence as to progress made in putting them into operation. Evidence is presented which shows that marked progress has been made in carrying out the recommendations of the survey in such vital directions as the revision and modernizing of the courses of study, the up-grading of the teaching staff, the development of research and supervisory programs aimed at the improvement of instruction, and the improvement of the holding power of the schools.

Baltimore Building Program. The Baltimore report presents detailed evidence of the progress made in carrying out the building program recommended by the survey. This has involved an expenditure since 1921 of $31,000,000 for the development of the city's school plant. The following statement from the report appraises the effect of the survey upon this program:

> The most spectacular outcome of the Baltimore survey is the large number of fine modern school buildings that have been erected in various parts of the city. The plan under which these buildings were erected is perhaps unique in the history of school building construction in the United States. . . .
>
> In the construction of new school buildings Baltimore has been guided by the principles of scientific building location laid down by the Survey and by the standards of school buildings developed by Strayer and Engelhardt. Buildings have been located only after a careful analysis of population growth and population needs. In this way the duplication of plants with greatly overlapping tributary areas, so characteristic of the older sections of the city, is being avoided in the rapidly developing outlying parts of the city. Sites have been chosen with due regard to the immediate environment and are ample not only for future additions but for adequate play space as well. The barren, forbidding appearance of many of the older buildings contrasts unfavorably with the attractiveness of the new buildings whose

[4] Page 91.

beautiful façades have attracted enthusiastic and favorable comment of school people from other cities.

The new buildings, where not initially constructed for the maximum capacity educationally desirable in one unit, have been so designed that additions can be made at reasonable expense without the necessity of replacing any costly structural members of the original building. This represents a distinct step in advance over the structures in use at the time of the Survey.

Baltimore Schools Ten Years after the Survey. In a final recapitulation of the effects of this survey by the Division of Field Studies the report of the superintendent of schools states:

> Ten years ago the Board of School Commissioners invited Dr. George Strayer of Columbia University to make a thorough study of the needs of the public school system of Baltimore. This investigation, one of the most exhaustive and scientific studies of an educational system undertaken at that time, and still outstanding, furnished a vision of what the system of public education of Baltimore might become. It set up new and better standards, it opened a way for the school people of Baltimore to improve their techniques in all lines of endeavor by showing them how to evaluate these techniques objectively. Baltimore's rise in education to a point where outsiders seek it out as a center that has developed results in education worth studying is largely due to the original impetus given by the Survey.

The Providence Survey

Providence offers another example of a city in which a survey by the Division of Field Studies has resulted in educational advance in a number of directions. A. J. Stoddard, superintendent of schools of Providence, recently presented the following summary of changes made in the schools of this city which were directly or indirectly outcomes of the 1924 survey:

> For many years prior to the survey that was made in the school year of 1923-1924 Providence had been regarded as one of the most conservative cities of the country in respect to its educational system. Most of its school buildings were old and poorly adapted to present needs. The city maintained the traditional primary and grammar schools and central high schools. It had a school committee of thirty-three members, subdivided into nineteen committees. There was a single truant officer. No provision was made for research and guidance. A meager amount of health service was fur-

nished by the City Council. Salaries were comparatively low. The curriculum was concerned largely with facts, knowledge, and skills.

The recommendations made in the report of the survey related especially to three features of the system: the school plant, school finances, and the organization and administration of the schools.

The significant improvements that have been made in the system since the time of the survey have been in accordance with the recommendations of the surveyors and largely due to the public enthusiasm that was aroused in coöperation with the efforts of leading citizens and civic organizations.

A building program providing for decided improvements in the school plant has been followed without interruption. The last of eight new junior high school buildings, costing, on the average, more than a million dollars each, is nearly completed. A comprehensive plan for the establishment of four regional high schools has been approved. Several large elementary school buildings have been provided and seventeen of the old buildings have been abandoned.

Since the financial support of the schools granted by the City Council, aside from the construction of buildings, had been meager, the first effort for reform was in that direction. The act of the legislature, framed with the the advice of the surveyors, provided that the annual appropriation for the maintenance of the public schools each year should be thirty-five per cent of the average tax receipts for the three preceding years, besides certain minor additional receipts. The increased funds opened the way for various progressive developments.

A most important advance related to general organization and administration. The act of the legislature provided for a school committee of seven members. According to the by-laws of the new committee the administration was thoroughly organized, with an assistant superintendent in charge of each department. The primary authority over certain school matters that had previously belonged to the City Council was transferred to the School Committee. A largely increased amount of authority and responsibility was assigned to the superintendent of schools.

Among the major features of the new organization are the following:

The department of research and guidance is now generally recognized as one of the foremost in the country in originality and thoroughness and in the extent and completeness of its organization.

For the department of attendance the step was taken to combine the functions relating to truancy and home visiting. A staff of twenty-one attendance officers, home visitors, and clerks maintain an exact consensus of all children from birth to twenty-one years of age, and attend to the relations between the homes and the schools in all districts of the city.

Health education, including both health service and health instruction, is administered by a staff of approximately forty-five officials, physicians, specialists, clinic dentists, and nurses. A complete program of physical education has been extended throughout the schools.

The improved financial condition has made it possible to grant an advance in salaries to a more satisfactory level. The new schedule includes features that are believed to mark significant steps of professional progress.

Missouri State School Survey

The survey of the schools of the State of Missouri conducted in 1929 by the Division of Field Studies provided a program for the development of the school system of the state which led to the passage of a number of fundamental state school laws by the 1931 legislature of that state. Among the more essential provisions of this legislation are the following:

1. An eight-month term guaranteed all districts.
2. Provision of eight years of elementary and four years of high school training for each student.
3. Provision for redistricting of school districts of state.
4. Each elementary teaching unit guaranteed $750 and each high school teaching unit guaranteed $1,000 for current expenses on a local levy of two mills.
5. Free high school tuition provided rural girls and boys.
6. Financial encouragement by state of abandonment of one-room rural schools.
7. Free elementary school textbooks provided.
8. Increase in state school fund from five to eight and one-half millions.
9. Enactment of graduated state income tax.

This legislation was characterized by Charles A. Lee, State Superintendent of Schools of Missouri, as *the most constructive piece of school legislation enacted in this state since the establishment of free public schools.*

BIBLIOGRAPHY OF SURVEYS CONDUCTED BY DIVISION OF FIELD STUDIES

The following bibliography lists twenty-eight surveys which have been conducted in various sections of the country during the last decade by the Division of Field Studies. These surveys have dealt with state, city, country, and village school systems as well as with other educational agencies.

Report of the Survey of the Public School System of Atlanta, Georgia. School Year 1921-1922. Made by Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. N. L. Engelhardt, Assistant Director, I: 260 pp.; II: 255 pp.

Report of the Survey of the Public School System of Lawrence Township, Mercer County, New Jersey. School Year, 1921-1922. Made by Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. Directed by N. L. Engelhardt and E. S. Evenden. 1921-22. 128 pp.

Report of the Survey of the Public School System of the Town of Stamford, Connecticut. School Year 1922-23. Made by Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. N. L. Engelhardt, Assistant Director, in charge of Survey. 237 pp.

Report of the Survey of the Educational Activities of the Young Men's Christian Association of the City of New York. By the Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. Franklin W. Johnson, Director in charge of Survey; J. K. Flanders, Assistant Director; Herbert A. Toops, Personnel Studies; and E. L. Bowman, Trade Courses, Guidance, and Placement. 210 pp. 1923.

Report of the Survey of Certain Aspects of the Public School System of Providence, Rhode Island. School Year 1923-24. Made by Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. 222 pp.

Report of the Survey of Certain Aspects of the Public School System of Springfield, Massachusetts. School Year 1923-24. Made by Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. 173 pp.

Report of the Survey of the Schools of the Township of Cranford, New Jersey. School Year 1924-25. Made by the Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. Printed by Cranford Citizen and Chronicle, Cranford, N. J., 1925. 70 pp.

Report of the Survey of the Schools of Watertown, New York. School Year 1924-25. Made by the Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. Bureau of Publications, Teachers College, Columbia University. 1925. 157 pp.

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Report of the Survey of the Schools of Holyoke, Massachusetts. Made by the Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director. N. L. Engelhardt, Associate Director. 1930. 479 pp.

Report of the Financial Survey of the Public Schools, Greenwich, Connecticut. Made for the Board of Estimate and Taxation of the Town of Greenwich, Connecticut, by Carter Alexander of the Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. 1930. 37 pp.

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Report of the Survey of the Schools of Fort Worth, Texas. Made by the Institute of Educational Research, Division of Field Studies, Teachers College, Columbia University. George D. Strayer, Director of the Survey. N. L. Engelhardt, Associate Director of Survey. Bureau of Publications, Teachers College, Columbia University, New York City. 1931. 438 pp.

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SCHOOL EXPERIMENTATION

By OTIS W. CALDWELL

Director, Institute of School Experimentation

INQUIRY THE BASIS OF EDUCATION

DIRECTED inquiry and investigations that are planned to satisfy inquiry are characteristics of modern education. The best teachers know that if the pupil really learns he must possess the driving power of a question to be answered, a situation to be met, a problem to be solved, or a degree of mastery to be attained. Under the drive of conscious need, the teacher may teach pertinent facts and principles, and lay the foundation for later attack upon other problems. The best teachers do not wait for emergent situations which call for inquiry, but help to develop the needed problems. It requires a quality of art that is not yet very common for the teacher to discover, rouse, transplant, or develop within the learner the kind of questions, problems, or needs that may serve as the demand for the further processes of education. But the pupil does his own learning only when he is impelled by some sort of question to be answered. In this sense, therefore, the elements of inquiry and research are at the foundation of all education.

RESEARCH, ONE EVIDENCE OF EDUCATION

Statements regarding the purposes of education include the common factor that people must learn in order to meet the situations, answer the questions, solve the problems, and make the useful adjustments which pertain to common and uncommon affairs. Those who do none of these things can scarcely be called educated, no matter how much schooling they have had; and those who perform these functions regularly and effectively in their common affairs and in their special fields of work are educated. Education attempts more than to provide the means of participation in and enjoyment of the benefits of civilized life. It attempts to provide the means by which people may discover and organize new knowledge and develop new pro-

cedures for use in new and changing needs. Therefore, educated people and institutions devoted to educating people may be expected constantly to be engaged in investigations designed either to solve problems or to make the results of their work clear to others. Engaging in some kind of effort to add to knowledge, or to solve some problem, is an evidence of effective and purposeful education.

THEORETICAL AND PRACTICAL RESEARCH

Educational investigations may be conducted in a library by means of books and other published records, in a specially planned laboratory, or in special or usual types of schools. They are commonly classified as theoretical and practical. This classification seems unfounded since no modern educator will conduct an investigation in complete isolation from actual school experience, nor will the practical school experimenter overlook the published results of previous studies nor the methods and findings of abstract and apparently theoretical investigations.

The most productive types of school experiments require as careful abstract consideration as do the so-called theoretical investigations. In the former, however, the emphasis is upon the subjects and practices in use under normal conditions of school work. Thus, school experimentation involves both the great advantages and the severe limitations of the genuine situations of school life. While there may be certain educational investigations which can best be conducted apart from active school work, the results of research in curriculum and method often fail to be truly useful unless conducted and measured in the school itself.

COÖPERATION WITH TEACHERS AS RESEARCH WORKERS

There is a steady if not rapid increase in the number of teachers who possess the attitudes, scholarship, training, and interest needed for coöperation in school experimentation. Such teachers usually realize that true experimentation is useful when conducted patiently and restricted to factors which may be controlled and measured. The increase in such experimentally-minded teachers not only contributes to coöperative experimentation, but when one piece of such work has been well done, those who have coöperated may be prepared to proceed thereafter on further investigations, either independently or in

coöperation. Thus there may be fostered an attitude of continuous careful trial of possible improvements in school work. Research may transform routine teaching into creative teaching.

SCHOOLS CONDUCTING RESEARCH

There is also a steady, if not rapid, increase in the number of school systems which accept experimentation as a means of school improvement. Though thoughtful teachers have always tried to improve their work, the present attitude is in sharp contrast to the attitude of a decade and a half ago when school officials scarcely dared to make public a statement that they contemplated experimental work in their schools. Many school patrons and administrators now realize that pupils are likely to be as well or better cared for under investigators who are seriously engaged in efforts to advance education as under conventional teachers. A few school systems have very definitely announced their commitment to school experiments, but have assigned these to certain schools or to special departments within the system. For example, one school may be engaged in development and trial of new content or new method in arithmetic, another in safety education, another in character education, another in social studies, another in the sciences; or a central experimental department may plan and supervise specific experiments in each of several schools within the system. A university institute of school experimentation has abundant opportunity for coöperative research in situations such as these, and if effective research is accomplished, the results become available and convincing at once to the coöperating school system since their own forces have helped to produce, test, correct, and publish the findings. If the experiment is not successful, the system may be protected against unsound proposals through its own coöperative experiments.

INDIVIDUAL RESEARCH

Another type of experimentation, as yet the most common type, is developed by individual research workers who desire to investigate problems and make improvement in matters of special interest to them. One works throughout a period of years upon the development of coherent sequence of science instruction. Another tries to discover what produces the desirable and the undesirable character reactions of school children. Another tries to discover whether

restricted and complete learning in physics produces better results than more extensive and less accurate learning. Such an individual worker secures favorable relations with schools interested in his problem. These schools provide the necessary teaching opportunities for experimental and control groups of pupils. The results of individual research are published, with credit given to the coöperating schools, the school sometimes having little organic connection with, or service outcome from, the investigation.

UNIT BASIS OF EXPERIMENTATION

Even a good experimental school could scarcely be wholly experimental, since the educational needs of children make it necessary that most of their program shall consist of the best content and practice that is now known. Experimentation is likely to be effective and useful to pupils if it is restricted to certain well-planned units of work, these being incorporated with the best-known content and practice in other units of work. Thus the pupils used in experimentation are assured a well-balanced educational program, and the teachers not primarily concerned in experimentation may continue to work effectively. School experimentation which isolates specific aspects of school work and submits them to study causes least interference with the regular life of the school.

PLANNED RESEARCH

School experimentation does not mean merely trying something that is new or different. To be worthy of trial with pupils who are in the process of being educated, a unit of experimental work should have the pre-thought of scholarly, trained, and experienced workers. Judgments and criticism of others also experienced in educational research are essential, and above all the proposed research should, in the opinion of judges, give good promise of real advancement to the pupils before much time and energy of the school are given to it. An institute of school experimentation possesses valuable and appreciated opportunities for individual research workers who keenly desire to analyze and organize new and dependable data regarding the topics of interest to them. But such an institute will be unworthy of its opportunities unless it makes sure that its results are of service to

the end that there may be some measure of increase in effectiveness of the work of the schools.

A CRITERION TO BE RECOGNIZED

An educational investigation cannot justly claim to have been conducted scientifically unless its data have been collected and studied in careful and systematic ways, and the conclusions so derived that another competent worker dealing with the same problem with the same phenomena will be led by the facts to the same conclusion. This criterion is of such significance that repetition of experiments is sometimes of great importance.

THE WORK OF THE DIVISION OF SCHOOL EXPERIMENTATION

INTRODUCTORY STATEMENT

SCHOOL experimentation, like other forms of scientific research, deals with specific enterprises, each a part of the whole, and each likely to undergo later changes when its related specific problems have been investigated. It is neither feasible nor desirable to investigate all or any large part of the school's active life at any one time. Each specific experiment, even if successful and resulting in some definite improvement, can scarcely achieve any large and sudden change in the school's life as a whole. We have, therefore, directed our efforts toward a limited number of investigations, and have selected a staff of workers who are interested in and trained for these specific studies. The kinds of work undertaken make it desirable that the staff shall consist chiefly of mature workers rather than of students who seek material for production of theses for graduate credit. Such thesis work, under effective guidance, serves an important purpose in the training of students, but the institute's emphasis is primarily upon certain investigations which give promise of improvement of school work.

The investigations that have been published and those proposed for further efforts are not casual pieces of work. They do not duplicate other investigations, but sometimes they coördinate studies made elsewhere with those undertaken here. It is planned to follow related groups of problems through years of coördinated effort, rather than to do unrelated pieces of work, even though those are highly important. The staff is a service-rendering group and desires and needs coöperation with teachers in regular school work if they have interest and training for productive experiments that are related to the whole program of the Institute of School Experimentation. During the last scholastic year our experiments were conducted in forty-one states and in coöperation with the teachers of at least thirty thousand elementary school pupils, eleven thousand high school pupils, and fifteen hundred college students.

The following synopses are of work supported by appointments to the Institute, and thus omit many important investigations made by some of the same workers who were partly engaged under other institutional appointments. Also, these synopses do not include reports from all who have worked in the Institute, because the work of some appointees did not result in outcomes of sufficient value to justify publication. This is not an adverse criticism of the worker, since it may be quite as valuable to education, though personally disappointing, when a worker discovers that proposed new units, new kinds of organizations, or changes in procedure are not useful.

The first group of studies relates to learning in the tool subjects; the second to rural school curriculum and organization; the third to elements of character and attitudes; the fourth to secondary school science; the fifth to social and linguistic studies; the sixth to miscellaneous publications.

LEARNING IN THE TOOL SUBJECTS

"Studies of Children's Interests in Reading." A. I. Gates, C. C. Peardon, and I. C. Sartorius. *Elementary School Journal*, 31: 656-670, 1931.

A series of studies of preferences for various types of reading material was made. Although the determination of children's interests was the main purpose of the investigations, subjects ranging in maturity from first grade pupils to college students were used for purposes of comparison. Different investigations, involving different subjects, were conducted.

The following results were obtained: Children prefer representative stories to representative factual selections. Other factors being equal, the prose and verse forms are equally attractive. Among narrative types, both prose and verse, the unusual and thrilling experience, the humorous and grotesque, the fanciful or supernatural types rank high in interest compared to the familiar and sentimental family experiences and the rather moralistic type of heroism and service compositions. Reduced to elementary qualities, the most potent interest-producing factors in literature proved to be surprise, liveliness, animalness, conversation, humor, plot, and suitability in difficulty. Such qualities as narrativeness, poeticalness, fancifulness, familiarity, repetition, realism, and verse form in and of themselves have little or no influence upon interest, whereas moralness tends to have a negative effect. Information introduced in connection with a purpose or project which it may further becomes interesting.

The influence of age, sex, school grade, intelligence, reading purposes, and

other factors or interests was also investigated. The values of teaching reading not as an isolated activity but as a vital component of a broad program of artistic, dramatic, exploratory, and other enterprises were demonstrated.

The problem of securing adequate review and integration of abilities as the pupil passes throughout the grades is outlined and a plan of arranging developmental sequences is given. Studies of developing fundamental reading skills revealed that the method of developing the basic skills in the process of reading itself is superior to the usual plan of resorting to artificial and isolated or supplementary drills. The presentation also includes new diagnostic tests and procedures, and new types of materials and practices for remedying reading difficulties.

Interest and Ability in Reading, A Report of Investigations. A. I. Gates. The Macmillan Company, 1930. xii + 264 pp.

This volume of eight chapters presents the results of approximately thirty investigations conducted over a period of several years.

A number of case studies and classroom investigations are included. For the latter, approximately two thousand pages of original teaching materials were used. It was found that conventional reading courses introduce new words too rapidly for all save the most brilliant pupils. That detrimental effects result from too heavy a vocabulary burden was apparent. Recommendations for improvements were offered on the basis of the experimental results.

Results are presented of a number of studies of the influence of the type of reading material upon children's interests. Since it was found that factual materials were usually less interesting than stories, the sources of the differences were sought.

The results of investigations of the influence of various elementary literary qualities upon children's interests are presented. It was found that such factors as surprise, liveliness, animalness, conversation, humor, and plot, properly utilized, are potent interest-producing factors. Such factors as poeticalness, verse form, familiarity, repetition, fancifulness, and realism, in and of themselves, influence interest only slightly. Moralness, as commonly handled in children's literature, has a negative effect upon enjoyment.

Then, the results of studies of the influence of the reading purpose and situation upon interest are given. It was found that children are much more eager to read factual materials when they contain information that may be utilized in furthering some purpose or project than when the information is offered in isolation or for itself alone. Illustrations of organizations of material in harmony with this finding are given.

The effects of the organization of reading materials upon reading interest and ability and upon development in other respects are discussed.

"An Experimental Comparison of the Study-Test and Test-Study Methods in Spelling." A. I. Gates. *Journal of Experimental Psychology*, 22: 1-20, 1931.

This study was designed to evaluate the two prevailing types of methods in spelling in a typical school situation. Approximately two thousand pupils in Grades 2 to 8, inclusive, were used as subjects during a school year.

The results, measured in terms of gains made per term in a random selection of words including about a third of the number taught, showed a slight general advantage in favor of the Test-Study plan. The Study-Test procedure was slightly better in the case of second grade pupils and the slower sections of the lower grades. Since the Test-Study plan, by excusing from further study pupils who have mastered the weekly assignment, requires a smaller amount of time in the aggregate and is more adaptable to individual needs, it seems preferable on the whole.

"What Do We Know About Optimum Lengths of Lines in Reading?" A. I. Gates. *Journal of Educational Research*, 23: 1-8, 1931.

This study involves a critical review of previous studies and the results of an investigation by the author. It was pointed out that previous studies had failed to take into account all the factors affecting efficiency and ease in reading and consequently could not definitely establish the optimum length of reading lines. In particular it appeared that previous studies had failed to eliminate the factor of habituation to lines of medium length. In a study in which children during their first year were required to read lines of varied lengths instead of lines of the same length, it was found that no length showed to marked advantage. Children accustomed to reading lines of varied lengths developed an adaptability not possessed by those whose reading was confined to lines of a narrow range in length.

"Characteristics and Uses of Practice Exercises in Reading." A. I. Gates. *Teachers College Record*, 32: 221-236, 1930.

The results are presented of studies of methods of conducting practice or remedial instruction for the purpose of correcting deficiencies and increasing efficiency in speed, accuracy, and power of reading comprehension. The limitations of certain common practices are pointed out and better procedures are indicated. The article includes a description of four new types of practice materials for Grades 3 to 8, and methods of using them.

"Methods and Theories of Teaching Reading Tested by Studies of Deaf Children." A. I. Gates. *Journal of Educational Research*, 14: 21-33, 1926.

This article outlines the theory underlying, and results obtained from, experiments in teaching untutored deaf-mute children to read, conducted under the author's direction. The report stresses the implications of the studies concerning the process of generalization in language acquisition and the process of learning to read in the case of normal children.

"An Experimental Study of Teaching the Deaf to Read." A. I. Gates. *Volta Review*, 28: 295-298, 1926.

This study developed new methods and materials for teaching deaf-mute children to read, based upon investigations conducted by the Institute, which demonstrated the feasibility of teaching reading before the mastery of lip-reading, manual signs, oral or written expression, or other language forms. The detailed report of the main investigation is given in a monograph by Helen Thompson.

The Influence of Intelligence upon Children's Reading Interests. Miriam Blanton Huber. Teachers College, Columbia University, Contributions to Education, No. 312, 1928. 39 pp.

General Procedure. (1) A body of material, consisting of thirty poems and stories, was selected in the light of previous studies of children's interests to contain, among other elements, surprise, plot, fancy, action, animals, play, adventure, heroes, home life, kindliness, service, information, and humor. These selections were then classified into six types as follows: A. Familiar Experience; B. Unusual Experience; C. Humor; D. Fancy; E. Information; and F. Heroism and Service. (2) Groups of judges, expert in literature for children, rated the literary quality and the suitability of the selections in each type to be about equal. (3) The subjects of the experiment, four hundred thirty in number, comprised fifteen classes in five public schools of Yonkers, N. Y. From the results of individual Stanford-Binet Intelligence Tests, they were distributed in three groups, equated for time spent in school and grade status. (4) The thirty selections were arranged in three programs of fifteen pairs each. Seven and a half hours, in three thirty-minute periods each day for a week, were used in reading the paired selections to the children, each child indicating a preference in each pair. (5) The preferences of each of the three groups, Dull, Average, and Bright, were computed as percentages of choices for each type of material.

The conclusions applicable to a practical educational program are, in the main, as follows: (1) Children, at all levels of intelligence, are appreciative of the quality of reading materials. Dull children, as well as those more fortunately endowed in intelligence, appreciate the merit of stories and poems. (2) To insure the greatest satisfaction to children in reading, attention should be given to the content and subject matter. Children of dull, average, and superior

intelligence have distinct and consistent interests in reading which deserve recognition in curriculum making. This is especially important in the education of dull children, whose interests, on the whole, show a striking similarity to those of more intelligent children. (3) A factor of importance in arranging courses of study in reading is complexity of material. It is necessary that material be graded carefully to the pupil's level of intelligence. Bright children can appreciate material of a wider range of difficulty, but in preparing reading materials for dull children care should be taken to avoid unusual words, confused or involved sentence and paragraph structure, or abstract and subtle ideas.

An Experimental Study of the Beginning Reading of Deaf Mutes. Helen Thompson. Teachers College, Columbia University, Contributions to Education, No. 254, 1927. iii + 83 pp.

Observations of the methods of teaching the deaf and of the pupils' reactions to these methods, together with a review of studies of the capacities of the deaf, indicated that better progress could be made in the teaching of reading if more modern methods were used, and if progress in reading were made less dependent upon lip reading and speech and more dependent upon visual perception.

Reading material, specially adapted to the capacities and interests of the deaf child, was devised. This material was used in an experimental control group study which lasted throughout the school year.

Tests before and after training indicated that: (1) In one year of beginning reading, in terms of school year units, two and one-half times as much reading ability can be developed as is developed under the present oral system. (2) This ability in reading is not taught at the expense of other subjects such as speech, lip reading, and writing. (3) This method tends to develop better attitudes of self-reliance and persistent application than the oral system.

A discussion of the construction of the material, its use, and its values and deficiencies is included. Samples of each type of material are included.

RURAL SCHOOL CURRICULUM AND ORGANIZATION

Four Years in a Country School. Fannie W. Dunn and Marcia A. Everett. Bureau of Publications, Teachers College, Columbia University, 1926. vi + 173 pp.

For ten years in two rural situations practical experimentation has been directed toward an improved plan of organization for one-teacher schools. The results published as cited above cover four years of this work in one situation, while the remaining six years' work is soon to be published.

Instead of eight elementary rural grades, three groups were organized; and

materials, methods, and programs were devised for teaching these groups. The regularly appointed teachers coöperated with the Institute's research appointees. The work was evaluated and adjusted by means of standard tests of pupil capacities and achievements. Advice and counsel of educational experts were regularly used. Revised mimeographed instructional units were subjected to new trial year by year, and these are published in part in the volume cited.

Measurement and judgment proved an amount of achievement and interest markedly in excess of usual rural school situations, the exact data regarding these appearing in the volume. The materials organized upon the three-group rural plan have been widely used in teacher-training institutions and by state and county rural school supervisors, thus indicating a contribution toward the solution of this aspect of rural education.

Radio in Rural Schools. Margaret B. Harrison. A Preliminary Report of a Study Made in 1929-1930. Published by the Institute of School Experimentation, Teachers College, Columbia University, 1931. 103 pp.

This experiment dealt with the use of radio as an educational agency in rural schools. The report cited presents an account of the various activities involved in the investigation, including listings of available broadcasts sent to coöperating teachers, visits to schools to observe and confer with teachers regarding their use of radio programs, the securing and compiling of teachers' reports of resultant activities, and several studies of the values of various types of programs.

These field studies have demonstrated the potential contributions of the radio to music education, development of appreciation and effective use of the English language, direction of individualized learning activities, general curriculum enrichment, and stimulation of creative expression. In several of the most fruitful units in the rural experimental schools, the contribution of the radio has been a factor of major importance.

This report has been distributed in the main to those responsible for formulating radio programs, to manufacturers of school equipment, and to committees and individuals engaged in experimentation with radio education, the portions more directly related to classroom work having been supplied in experimental mimeographed form to teachers and supervisors.

ELEMENTS OF CHARACTER AND ATTITUDES

"Characteristics of School Leaders." Otis W. Caldwell and Beth Wellman. *Journal of Educational Research,* 14: 1-15, 1926.

The characteristics of leaders in school activities were studied and compared. By leaders is meant here those pupils who were chosen by their classmates as representatives. The children were the junior high school pupils of the Lincoln School of Teachers College, Columbia University, including sixty-three boys and fifty girls.

Six types of representatives were considered—class presidents, student council members, junior high school magazine staff members, athletic captains and assistant captains, science club officers, and citizenship representatives. Seven characteristics were compared—chronological age, mental age, intelligence quotient, scholarship, extroversion, height, and physical achievement. The characteristics of the boys and girls chosen by their classmates as representatives in various lines of school activity varied with the types of activity in which the representatives were to engage. High physical achievement, for example, was the outstanding characteristic of the athletic leaders (the average rank for the girls being 3.3 and for the boys 2.9); while for the other types of leaders, high physical achievement was not so prominent a characteristic. Scholarship was rather high for all leaders; the athletic leaders among the boys were the lowest of the group of leaders in scholarship, but even they were at the average of their classes. The chronological ages of the leaders were for the most part close to the average of the classes or slightly less. In all types of leadership except athletics the girls were ranked as extroverts. The athletic leaders were ranked at balance between extroversion and introversion. The boys tended to be more frequently extrovertive than introvertive, but not to such a marked degree as the girls. The girls were about average in physical development in so far as height was concerned, while the class presidents and athletic captains were the tallest of the boys, and the magazine representatives were among the shortest of the pupils.

"The Citizenship Ballot of the Lincoln School." Otis W. Caldwell and Raleigh Schorling. Published as part of "Characteristics of School Leaders," *Journal of Educational Research,* 14: 10-15, 1926.

It was desired that pupils under guidance should define the qualities of citizenship which should compose a ballot for use in their own school elections. A fundamental purpose was to lead pupils to careful consideration of the qualities which might be found in their most respected companions.

Committees of pupils, appointed by the pupil assembly chairman, presented assembly reports upon different elements of their proposed ballot. These were discussed and revised, and the ballot finally adopted for use. The ballot was so arranged that each pupil voted for a first and a second choice on each of the eleven points of the total ballot.

CITIZENSHIP BALLOT

Sportsmanship.—Is a good loser; wins without conceit or boasting; knows the rules of the game; plays fair; controls his temper; disdains "squealing."

Fellowship.—Is an optimistic, cheerful companion; values friendships; recognizes and extols the good qualities of others; is tactful and kind regarding others' faults; avoids snobbishness.

Leadership.—Accepts responsibility; inspires confidence; keeps mind on task rather than on self; promotes teamwork; sees a task through; weighs effect as it will act on future policy; has initiative; has energy; suppresses grouching.

Honesty.—Is truthful; accepts deserved blame; is free from prejudice; rejects gossip; despises thieving.

Pride in Appearance of School.—Keeps locker and cloakroom in order; neat in personal appearance; picks up waste papers; discourages crowding in halls and elevators; is helpful to visitors; avoids unseemly haste.

Sense of Economic Value.—Realizes the value of things; is careful of his own property and that of others; realizes that someone has earned and saved to produce all material goods; economizes time; is thrifty.

Followership.—Recognizes responsible leadership; values expert opinion; respects past experience; sacrifices self for sake of the task; coöperates cheerfully for the good of the group; works faithfully on committees.

Courtesy.—Actions are prompted by an unconscious kindness of heart rather than mere social forms; deference to elders; helpfulness to those younger and weaker.

Loyalty.—Discourages "knocking"; encourages criticism which purposes to improve; has faith in the possibilities of the group; promotes school spirit.

Obedience.—Abides by regulations of the school; recognizes authorities, namely, (1) teachers, (2) pupils in charge.

Trustworthiness.—Has sense of responsibility; keeps his work up; can be trusted without supervision.

The validity of pupil judgment of their fellows is indicated by their elections. Each of two years, the first election of leaders was held on a day previously announced. Then thirty days later, and without previous announcement, another election was held by the same pupils, who had been told: "There is a good reason why the balloting must be done over and it makes no difference whether you vote as you did before." The sixteen pupils who ranked highest in the first vote in the first year ranked highest in the second vote; while in the second year but one change occurred in the pupils who were elected to the ranking positions. An accompanying fact of importance is that those elected in the citizenship ballot were high in scholarship. Eleven of the sixteen elected in the first year were in the school's highest one fourth in scholarship, and nine of the sixteen elected in the second year were in the highest one fourth in scholarship.

The citizenship ballot, the tests in athletic achievement, and the tests of scholarship resulted in threefold data upon the basis of which the school's emblem

was awarded to those of highest standing. Thus a partially objective means was available and pupils were constantly aware of the prevailing standards.

"Student's Attitudes Regarding Unfounded Beliefs." Otis W. Caldwell and G. E. Lundeen. *Science Education*, 15: 246-257, 1931.

The purpose of this research was to study the prevalence of certain misconceptions and superstitions among students and subsequently to prepare teaching material for the correction of such erroneous ideas and attitudes. A study was made of the numerous publications dealing with unfounded beliefs.

A form containing two hundred statements of common unfounded beliefs was then prepared. This was administered to 918 high school seniors and to 264 college students. The students indicated for each item whether they had "heard" it, whether they "believed" it, and whether the idea "influenced" their behavior.

(1) The answers of high school seniors revealed that on an average they have "heard" about 50 per cent of the ideas, and that they "believe" in, and are "influenced" by 20 per cent of the ideas they have "heard." (2) College students have "heard" more of the ideas but they "believe" in and are "influenced" by fewer of them than are the high school students. (3) Women students, both in high school and in college, are more influenced by unfounded beliefs than are men students. The difference is more than three times the standard error of the difference and is thus statistically significant. (4) Students of rural communities have "heard" and are "influenced" by more unfounded beliefs than students of large cities. The differences are statistically reliable, and hold true for both men and women students. (5) It is suggested though not proved that education makes a difference in amount of adherence to unfounded beliefs.

Comparisons are also drawn between different types of ideas, e.g., misconceptions about health, natural phenomena, luck, weather, etc. The text of the two hundred statements is presented and the statistical results are given for each item. The article concludes with a bibliography of thirty-three titles of studies, compilations, and discussions bearing on the subject of unfounded beliefs.

"A Study of Unfounded Beliefs Among High School Seniors." G. E. Lundeen and Otis W. Caldwell. *Journal of Educational Research*, 22: 257-273, 1930.

The problem of this study was to find to what extent high school seniors (of various localities) have heard of, believe in, and are influenced by certain types of unfounded beliefs.

A questionnaire of two hundred ideas having little or no basis in fact was organized in such a form that the students could record their responses to these ideas. The pupils were asked to indicate for each idea whether they had heard of it, whether they believed in it, and whether it influenced their conduct in any

way. Nine-hundred eighteen usable returns were secured from high school pupils. Responses were also secured from college students for the purpose of comparison.

Conclusions: (1) The returns from the study show that the agencies, including education, which influenced people, have not eradicated belief in signs and superstitions among students. It may be inferred that education and experience tend to reduce irrational beliefs since students in college show less such belief than do high school seniors. (2) This study is based upon high school seniors and college students, a select group, and the results cannot be regarded as typical of the general population. (3) The study has isolated a list of influential unfounded beliefs, commonly held by students, which may be made an organic part of units of instruction and be used in experimental work in the further study of developing attitudes.

The Self-Marking Test, Forms A-S and B-S. J. B. Maller. Bureau of Publications, Teachers College, Columbia University, 1930.

The Self-Marking Test is an objective test of honesty in school situations. The test is composed of ten parts, each of which measures some phase of trustworthiness. It can be used for group testing as well as for individual testing, and is readily administered and scored. The reliability of the test determined by the correlation between the two forms of the test is .8489 ± .012.

The Manual of Directions describes the underlying principles of the test, its construction, and its proper use. The results revealed by the test are presented, together with the distribution of scores, the averages, and standard deviations.

In order to avoid misuse and undesirable publicity, the distribution of this test is limited to those who wish to use it for constructive research in character measurement and character education. It is now used in a number of cities where different forms of character education are being tried, and it has been included in the testing program of several psychological clinics. More than six thousand children of the upper grades have been examined with this test.

Tests of Sports and Hobbies, Forms A and B. J. B. Maller. Association Press, New York, 1931.

This test is similar in principle and technique to the Self-Marking Test. It is a test of trustworthiness, for use with young people and adults. It is composed of eleven sub-tests and 100 questions. Fifty of the questions are very easy and the remaining fifty very difficult. A Key giving the answers to all questions is inserted in each test blank. The correlation between the two forms of the test is .8190 ± .010.

"The Effect of Signing One's Name." J. B. Maller. *School and Society*, 31: 882-884, 1930.

The purpose of this investigation was to determine whether children should be asked to sign their names on ballots, rating scales, and character tests where reliability of response is essential.

A group of 117 children of the eighth grade were asked to rate one another on classroom loyalty. The rating was done twice, the first time without signing the name of the rater, the second time signing it.

The effect of the signature on character tests was similarly studied. A test of coöperation and a test of persistence were administered to two equated groups. One of the groups was re-tested under normal conditions, the examiners being required to write their names on the test blanks. The second group was also re-tested, but the children were directed *not* to write their names on the test blanks.

In the case of the character tests, as well as in the case of the rating scale when the children were asked to write their names, their reactions were significantly different from those situations in which they were told not to write their names.

The results revealed that when a test aims to get the pupil's "natural" response to a situation, it is desirable not to ask that his name be written on the test. An identifying symbol may be used instead. When the name is required, it is advantageous to postpone asking for it until the test is over rather than to ask for it at the beginning of the test.

When children are asked to rate one another the responses will be more representative of their true estimates of one another if they are not asked to put their names on the rating scale. A secret ballot appears to have greater validity than one which requires the voter's name.

"Size of Family and Personality of Offspring." J. B. Maller. *Journal of Social Psychology*, 2: 3-27, 1931.

The purpose of the study was to determine the relationship between the size of family and certain measurable factors of personality.

The records of the Character Education Inquiry were obtained for 812 children, giving the results of tests of intelligence, scholarship, honesty, coöperation, persistency, inhibition, etc. The children were also rated by their teachers and classmates on these factors of personality. Each of the factors was then correlated with the number of children in the family.

The size of family was found to correlate negatively with intelligence, moral knowledge, cultural background, and honesty. The correlations, though showing a negative trend, do not, however, reveal a linear relationship between the

above factors of personality and size of family. The highest intelligence scores, for example, were made by those coming from homes of two children. There was a markedly negative relationship between the social status of the parents and the number of their children.

The size of family shows a definitely curvilinear relationship with coöperativeness, helpfulness, and inhibition. Those of very small families as well as those of very large families scored lower than those of families of average size. Size of family correlates positively with scores of persistence, children of large families scoring highest on persistence tests. Ratings of teachers and classmates show a similarly curvilinear relationship to size of family. The rating increases and reaches its maximum for the three- or four-child family and then decreases.

If we consider the families tri-serially, those having one child, those having two to five children, and those having six or more children, we find the following relationships. The "only" child is above average in intelligence, in moral knowledge, cultural background, and honesty. He is just average in coöperativeness, and persistence; and below average in inhibition and ratings by teacher and classmates. The children of small families are highest in intelligence, in honesty, in inhibition, and in ratings by teacher and classmates. The children of large families are lowest in intelligence, moral knowledge, cultural background, honesty, coöperativeness, inhibition, parents' intelligence, and moral knowledge. They are highest in scores of persistence.

"The School Child's Choice of Companions." Beth Wellman. *Journal of Educational Research,* 14: 126-132, 1926.

Are children who are close friends similar or dissimilar in certain specific and measurable characteristics? The characteristics compared were chronological age, mental age, intelligence quotient, achievement in scholarship, extrovertive tendencies, height, and physical achievement. The study was made at the Lincoln School of Teachers College, Columbia University. The children, sixty-three boys and fifty girls, were in the junior high school and about equally distributed throughout the seventh, eighth, and ninth grades.

Frequency of companionship was taken as the criterion of strength of friendship, and the frequency of companionship was determined through daily observation and records over a period of five months of the groupings of the children in the freer activities of the school. The child with whom one was observed the largest number of times was considered to be that person's closest associate. Twenty-seven pairs of girls and twenty-nine pairs of boys were thus obtained and compared.

It was found that the pairs of girls were more alike in scholarship than in any other characteristic and less alike in height, while the boys were more alike in

height, intelligence quotient, and chronological age, and less alike in extroversion, scholarship, and mental age.

A Study of Intelligence Test Elements. Leona E. Vincent. Teachers College, Columbia University, Contributions to Education, No. 152, 1924. viii + 36 pp.

The object of this investigation was a study of method in intelligence testing and analysis of intelligence test elements.

The study was based on the Thorndike Intelligence Examination given to students entering Columbia, Barnard, and Columbia Law School during the period September, 1919, to January, 1924. The records of both accepted and rejected students were included in the study.

The test elements studied were those of completion, arithmetic, and reading. The difficulty of each item was determined by the percentage passing it.

Each item was correlated with the criterion, the total score on the intelligence test. The method of overlap and the method of biserial correlation were employed. On the basis of this comparison the various items of the test were separated into good and poor items. A study was then made of the relationship between the goodness of an item and its difficulty, length, complexity, content, and form.

The following conclusions were reached:

1. The method of overlapping is most practicable for the study of test elements. Its only competitor is the method of the biserial correlation. The results of the two methods correlate very highly (.946).

2. There is a positive relationship between the goodness of an item and its difficulty. Good and poor items, however, were found at all levels of difficulty.

3. There is a positive relationship between goodness and complexity and between complexity and difficulty.

4. There is some relationship between goodness and specific content of items as well as between specific content and form of items. Familiar forms of presentation discriminate between intelligent and unintelligent children better than unfamiliar forms.

5. Types of elements which discriminate between the intelligent and the unintelligent on one level of difficulty do not necessarily discriminate on other levels of difficulty.

SECONDARY SCHOOL SCIENCE

Biology in the Public Press. Otis W. Caldwell and Charles W. Finley. Bureau of Publications, Teachers College, Columbia University, 1923. 151 pp.

It was desired to determine the kinds and amounts of biological information that occur in the public press. The newspaper reflects, in part, the nature of public interest and knowledge. Knowledge of the biological topics used in the public press might therefore provide some measure of guidance toward determining the types of content to be included in courses of instruction.

Seventeen full months' issues of daily papers were secured. The papers represented the press of the entire country. All biological articles were clipped, classified, and analyzed according to a specially devised system.

A total of 3,061 biological articles was found, with an average length of over eight column inches. These articles were grouped under Health, Animal Life, Plant Life, Food, Producers of Living Things, General Nature, Evolution, and Fictitious Biology. The first four groups range in quantity from 30 per cent in Health to 18 per cent in Food. Each of the eight groups was further classified. For example, the Health articles were grouped under eight subdivisions covering the range of public concern about health.

The study, in addition to providing exact information about the public's use of a subject of the school curriculum, also presents methods of investigation which it is expected will apply to related studies in experiments with the curriculum.

"The Place of Natural Science in Programs of High School Graduates." Joseph N. Gamble. *School Review,* 39: 177-185, 1931.

The study reported in this article was undertaken in an endeavor (1) to determine existing curricular practices with regard to the requirement and the election of natural science as revealed in programs of high school graduates and (2) to find to what extent there is sequential coherence in the courses in natural science.

The following questions directed the study. (1) What part of the pupils' recitation time is being devoted to science in comparison with other subject matter groups? (2) What science subjects are offered? (3) How many years or units of science are required before graduation? (4) What, if any, particular units of science are specified, and are these specifications limited to particular years? (5) May a science class in a given course be composed of pupils from various academic years? (6) How does college preparation influence the requirements and the courses offered in science? (7) Does the adoption of the single lengthened period for both laboratory and class work limit the amount of instructional time available for science? (8) To what extent do sequences of science subjects appear in pupils' programs?

Conclusions.—(1) There is a wide variation (from 3.6 per cent in the Commerce High School, Springfield, Mass. to 14.1 per cent in the Technical High School, Springfield, Mass.) in the time allotted to natural science in the pro-

grams of the graduates of the high schools included in this study. (2) There is little agreement among these high schools with regard to the science program offered to pupils in the various grades except in the ninth grade. (3) One year or one unit of science is required before graduation from the general high schools in this study (the high schools in Trenton, N. J., and Sacramento, Calif., and the Grover Cleveland High School in St. Louis, Mo.). This requirement may be satisfied by general science in the ninth grade or by a laboratory science studied in the tenth, eleventh, or twelfth grade. (4) There is little agreement as to the science subjects specified, and as to the years to which they are limited in the high schools studied. (5) Except in the ninth grade, classes in science are composed of pupils from various academic years. (6) Formal college preparation dominates the science situation in the high schools in Springfield which were studied. In the general high schools studied in Trenton, Sacramento, and St. Louis the prevailing type of college preparation allows more freedom in content and in presentation of the courses of study in science. (7) There is no evidence that the limitation of instructional time by the adoption of the single lengthened period has reduced the value of the laboratory or class work in science in the Grover Cleveland High School, St. Louis. (8) The science sequences recommended by the Committee on Science of the Commission on the Reorganization of Secondary Education appear in part in the science subjects that are required or elected in pupils' programs of the high schools included in this study.

"What Are Girls and Boys Getting from Their School Courses in Science?" A. W. Hurd. *Teachers College Record,* 21: 642-647, 1930.

These 34 experiments, in which 1,339 pupils participated, were carried on in order to determine by objective tests the achievements due to instruction in twelve carefully outlined teaching units in high school physics, involving information, appreciation, and techniques. Preliminary and final tests were identical, with a period of instruction intervening.

Definite gains were registered in every case with the usual variations in groups and individuals, with variabilities about the respective means greater after than before instruction. The mean score per unit per group was 54.2 per cent. If unit objectives are considered as minimum essentials to be mastered by all, achievement being made is inadequate.

"The Experimental Use of Teaching Units in Physical Science." A. W. Hurd. *North Central Association Quarterly,* 5: 471-474, 1931.

These 64 experiments are similar to those reported in the preceding article and are constructed upon the same pattern. Fourteen units were used with 1,906 pupils in a wide range of territory. Revisions in unit outlines and tests from the previous year were made to make them more coherent and definite.

The results support those of the preceding study, the mean score per final test per unit being almost identical, viz., 54.1 per cent. There were, however, a few instances reported of quite commendable achievements, due to more careful planning of instructional procedures designed to accomplish the objectives for which the unit was organized.

General Report on Class Achievements, Unit VIII. Electric Lighting Systems, Experimental Series School Year, 1930-1931. A. W. Hurd. Published by the Institute of School Experimentation, 1931.

These 94 experiments were used to determine the effects on achievement of a more careful selection of unit objectives and more careful instruction and measurement of instructional results. One unit was used with 1,955 pupils in all experiments. It was a revision of the unit used during two previous years, revised to eliminate (*a*) obsolete content, (*b*) content which contributes to unit incoherence, and (*c*) content of relatively less importance, in consideration of the time available for unit instruction. Improvements were (*a*) a teacher's outline, (*b*) printed individual work sheets, and (*c*) two forms of unit test.

Achievement records were much more satisfactory as measured by tests which have proved highly reliable and valid, the mean percentage score being 65.4 per class, distinctly higher than any previous records for the same unit or any other unit. Several classes made very commendable records of achievement.

"Curriculum Development Based on Unit Experimentation in Physics." A. W. Hurd. *North Central Association Quarterly,* 5: 474-489, 1931.

This study was an analysis of test responses in relation to unit items in high school physics to determine: (*a*) adequacy of response; and (*b*) feasibility of eliminating the item. Besides adequacy of response, these criteria were used in helping to determine retention or elimination of the item: (*a*) certain stated ultimate and immediate aims of education; (*b*) coherency of the organization of the unit topic; and (*c*) time available for instruction. Test items to the number of 1,370 were investigated, 2,558 pupils being used for the preliminary tests, and 2,983 for the final tests.

Results include: (*a*) definite effects of instruction for every item; (*b*) 53 test

items eliminated from Test VIII (the other unit tests have not yet been revised); (*c*) 16 items eliminated from the unit outline, (*d*) the retained items justified on the basis of the chosen criteria; and (*e*) projected plans for further experimentation.

"The Workbook as an Instructional Aid." A. W. Hurd. *School Review,* 39: 608-616, 1931.

These 16 control experiments were conducted to determine the value of work sheets in securing satisfactory achievement ratings in objective tests designed to measure the objectives of eight teaching units in high school physics. In all experiments, 1,125 pupils were enrolled in the experimental classes that used, and in the control classes that did not use, the work sheets. Comparisons of classes and the 280 pairs of matched pupils from these classes, and the other individual comparisons showed: (*a*) nine experiments consistently favor work sheets, three being significant to the degree of certainty; (*b*) five experiments (three in one school) consistently favor no work sheets, two being significant to the degree of certainty; and (*c*) two experiments show little difference.

"Effects of School Instruction on Student Achievement." A. W. Hurd. *Science Education,* 15: 239-244, 1931.

This study was an examination of preliminary and final test distributions, with gains made, for eleven teaching units in high school physics, involving more than 2,300 pupils who had been instructed in one or more units. These are used to illustrate desirable and undesirable score distributions for unit tests, in order to measure efficiency of instruction.

"Teacher Opinion on Problems of Science Teaching." A. W. Hurd. *Educational Method,* 10: 281-284, 1931.

Questionnaires filled out by teachers who had used one or more teaching units in high school physics were tabulated to secure consensus statements. Opinions are in agreement that the present course in high school physics is too long, and should be revised so as to concentrate on a few intensive units built around concrete situations in the environment of the pupil, rather than to cover the whole field of logically organized physics.

"The Effects of Previous Upon Subsequent Courses in Science." A. W. Hurd. *Educational Administration and Supervision,* 16: 144-146, 1930.

This research presents objective data showing that a previous course in general science is effective in causing higher achievements in a subsequent course in physics in content which is similar, but not in dissimilar content.

Final Test in High School Physics, Forms A, B, and C. A. W. Hurd. Bureau of Publications, Teachers College, Columbia University, 1931.

This research resulted in three equivalent forms of a test in the conventional content of high school physics, each being reliable, valid, and objective. Percentile scores and "M" scores are given.

"High School Physics Makes Small Contribution to College Physics." A. W. Hurd. *School and Society,* 31: 468-470, 1930.

This research dealt with data showing that a high school course in physics has certain definite outcomes but that these are not particularly operative in producing high achievements in the usual college course in physics. "Interest as a Factor of Achievement in Science," *Science Education,* 15: 54-60, November, 1930. This research presents data showing that "drive" enhanced by interest operates to increase achievement in science courses.

"Preliminary Tests as Prognostic of Final Achievement in Physics." A. W. Hurd. *School Science and Mathematics,* 31: 745-748, 1931.

This research presents data showing that scores in a preliminary test in a given teaching unit in general correlate higher than other criteria commonly reported, with final achievement scores in the same unit.

"Achievements of Students in Physics." A. W. Hurd. *Science Education,* 14: 437-448, 1930.

"Progress Report on the Development of Teaching Units in High School Physics." A. W. Hurd. *North Central Association Quarterly,* 5: 257-293, 1930.

"Present Inadequacies and Suggested Remedies in the Teaching of Physics." A. W. Hurd. *School Science and Mathematics,* 30: 539-546, 1930.

Work Test Book in Physics. A. W. Hurd. The Macmillan Company, 1930. vi + 148 pp.

"Health Material in Science Textbooks." Lois Meier. Bureau of Publications, Teachers College, Columbia University, 1927. 104 pp.

Proposed new courses of instruction dealing with health made it desirable to determine the amount and nature of health instruction now included in science

courses. Four widely used textbooks in each of the four most commonly taught science subjects were selected, specialists assisting in this selection. Then 150 paragraphs descriptive of outstanding health topics based upon the Gates-Strang Health Knowledge Test were submitted to twenty judges to determine inclusion in the list of health topics. The textbooks were then analyzed, and the health materials classified according to forms based upon specialists' judgments.

The study showed that while general science textbooks vary in the amount of health topics, approximately one-third of the content is related to health instruction; that this health instruction is based on environmental problems; and that there is a tendency to organize general science instruction around problems of health. In biology about one-half the total content relates to health and there is a tendency to organize biological instruction around problems of health. In chemistry wide variation exists, the topics pertaining to health averaging less than one-tenth, and there is no tendency to use health as a basis of organizing instruction. In physics only about two per cent of the content is in any direct way related to problems of health.

The study resulted also in extensive lists of health topics that are related to individual health problems.

A Study in the Psychology of Learning in Geometry. Winona M. Perry. Teachers College, Columbia University, Contributions to Education, No. 179, 1925. iii + 59 pp.

It was desired to find the comparative effects upon students of three levels of potential ability in reasoning of two techniques in guiding student thinking when solving exercises in geometry.

This investigation, conducted in Gorton High School (Yonkers), included three classes, of which the experimental division and one of the two control divisions were taught by the writer. Within each division, three groups of students were differentiated by tests in reasoning and in mental ability. A "technique in reasoning" was used by the teacher, and one (rephrased) constituted the mental tools of each student when attacking propositions or exercises. Tests of exercises graded in difficulty, plus the development of score cards making possible more objective scoring of the complex processes involved in the proof of an exercise became the bases for detailed study of the habits of thinking acquired by these students.

This experimental technique in reasoning was the means of decreasing student difficulties in the solution of geometric exercises, of forming and developing those habits which lead to successful solutions, and of arousing that individual satisfaction which comes from the knowledge of an increasing number of exercises successfully proved. However, this effect was not at all uniform upon groups differing in potential ability. This experimental technique proved markedly

helpful to the group of average students, of slight benefit to the group of superior students, and detrimental to the group of very superior students in initiating and developing the habits of analyses and generalizations necessary for successful solutions of these "originals."

"Are Boys Excelling Girls in Geometric Learning?" Winona M. Perry. *Journal of Educational Psychology*, 20:270-279, 1929.

The data of the above investigation were used to determine whether the boys were equal, superior, or inferior to the girls in the solving of certain geometry originals.

As the personnel of the ability groups, of the divisions, and of the sexes numbered from one to fifty-three, in addition to the method of measuring the per cent of boys' scores reaching or exceeding the median girls' score a most searching technique (Yule's Coefficient of Association) was used in order to ferret out those rather subtle factors operative during the actual process of solving exercises in geometry.

Contrasting with the earlier results of Touton and of Webb, it was found that the girls reached a higher degree of achievement in the solution of exercises in geometry. The degree of superiority in achievement depended less upon the ability group and the division membership of these students but more markedly upon the nature of the step. Although adequate responses to the "given" steps tended slightly in favor of the boys, ability to respond adequately to the "link" steps (and therefore to the step combinations within the several exercises) was more characteristic of the girls. Thus the girls were superior in bridging the gap between the given relations (those observed with the pertinent recalled facts) and the required relations which had controlled the direction of the processes of thinking during the actual solving of exercises in geometry.

SOCIAL AND LINGUISTIC STUDIES

"The History Inquiry." Edgar Dawson. *The Historical Outlook*, 15: No. 6, 239-272, 1924; and separately published by the McKinley Publishing Company, 1924.

The purpose of this research was "to discover the present (1924) condition and tendencies of history teaching in the schools" and to aid the American History Association in formulating a policy toward a thorough survey of the field.

The methods of investigation were as follows: (1) a survey of the literature of history teaching over the years 1899 to 1924; (2) a series of questionnaires given to history teachers, professors of education, and school administrators; and (3) two tests given in representative high schools in various parts of the country.

The findings and conclusions of this study may be summarized as follows:

Ancient History as a separate course seems to be receding in popularity. The tendency to stress recent history seems to be weakening the popularity which Medieval History formerly had. English History as a separate subject seems to be losing ground. The one-year course in World History, while popular in some quarters, does not seem as yet to have made much headway. American History tends to move from the last year of the high school to the next earlier year—the eleventh grade. There is a tendency to put into the twelfth grade a course in current problems under some such title as Modern Problems, or Problems of Democracy, or Social Problems. New York and Maryland have recently set up, for the tenth, eleventh, and twelfth grades, a three-year course in history; and correspondence with trained history teachers shows that such an arrangement is not without widespread support. There seems to be a tendency to put into the ninth grade one or more of the new civics courses. There is considerable interest among school administrators in a Junior High School course made up of a combination of materials taken from geography, government, history, and industrial and social conditions. The tendency to give a large amount of time to the socialized discussion of current events seems to be growing. The teaching of government seems to be standing still, if not actually receding, under the pressure for a rather indefinite discussion of economics and social problems. The training of teachers for the social studies, separately or as a group, is clearly in sad need of attention.

As a consequence of this study, the Council of the American Historical Association decided to undertake the five-year "Investigation of the Teaching of History and Other Social Studies in the Schools." This inquiry is now being conducted with the aid of the Carnegie Corporation.

A Determination of the Major Social Problems of American Life. John A. Hockett. Bureau of Publications, Teachers College, Columbia University, 1927. vii + 101 pp.

The aim of this study was to determine the most crucial political, economic, and social problems and issues of contemporary life in the industrial world. Since one of the important objectives of social science courses in elementary and secondary schools is to lead pupils to an understanding of the significant problems of modern life, it seemed profitable to attempt to define those problems as accurately as possible.

Since societal problems exist not as concrete, tangible entities, but rather in the judgment of men that certain concrete conditions are undesirable, the only basis for determining such problems lies in utilizing the judgment of experts. After a careful preliminary investigation, a list of books was selected as representing the most valid, mature insight of a group of outstanding students of modern civilization. The works of such leaders as the following were utilized:

James Bryce, T. N. Carver, Herbert Croly, Mary Follett, R. T. Hobhouse, H. J. Laski, Walter Lippmann, A. Lawrence Lowell, A. Ramsay MacDonald, James Harvey Robinson, Bertrand Russell, Richard Tawney, Thorstein Veblen, Graham Wallas, Sidney Webb, and Alfred Zimmern. The most critical and penetrating books of these and other social analysts were carefully studied, a record being made of each problem or issue recognized by the author. The complete list of some four hundred problems and issues secured in this manner was organized and classified, and is presented for the use of educators who are concerned with courses of study or textbooks in the social science field. Two typical problems selected at random for purpose of illustration are as follows: "The problem of increasing the efficiency, skill, and sincerity in the methods of work of legislative bodies—making them truly deliberative bodies, supplied with requisite information and technical skill, giving public-spirited consideration and adequate debate to all bills." "The problem of securing application of the spirit and methods of natural science to the social sciences. Educating people to attack fundamental causes of evils rather than symptoms and particular persons; to rectify general wrongs rather than mollify individual cases; to substitute positive modes of action for negative restrictions and purgings."

Objective Studies in Map Location. John A. Hockett and Harold Rugg. Lincoln School of Teachers College, 1925. x + 132 pp.

The purpose of this investigation was to select from the enormously long list of location facts that might be presented those which are of most universal, frequent, and necessary utility. It was believed that such a selection of location facts would be of value to teachers, textbook writers, and curriculum makers in their attempts to solve the problem of what to teach.

Seventeen criteria were set up for the determination of the relative importance of the various classes of location facts. These criteria varied widely in validity and in scope of applicability. Among them were: statistics of bank clearings, of exports and imports, of population, of areas, of freight tonnage, of miles of railroads, of output of minerals, of ocean traffic; frequency of mention in critical writings of contemporary students, frequency of mention in news material, and number of magazine articles devoted to various locations.

The outcomes of the study are lists of locations in order of relative importance, grouped in the following classes: cities of the United States, foreign cities, countries of the world, other sections and regions, states of the United States, islands, bodies of water, rivers, mountains and mountain ranges, United States ports, world ports, railroads of the United States; regions of production of coal, iron, petroleum, wheat, manufactured goods; ocean trade routes and regions of dense population.

Deutsches Geistesleben der Gegenwart. Otto Koischwitz. (An Introduction to Contemporary German Literature.) Crofts, New York, 1930.

This book consists of selections from contemporary German writings. Pupils in high schools were used experimentally in selecting the materials. Choice of material was painstaking and based upon scientific methods. It represents the various divisions of German literature and reflects the variety of political and economic problems of present-day Germany.

The book is intended as an aid in the study of German language and culture. It contains a series of notes related to the various selections and a bibliography of current references on the history of German literature. Pictures of a number of contemporary German authors are also given.

Issues in the Social Studies. Baldwin Lee. Lincoln School of Teachers College, Social Science Monographs No. 3, 1928. viii + 183 pp.

The purpose of this study was to inventory and evaluate the major issues in the high school social studies, and to examine critically the treatment of issues in high school social science textbooks and classes.

Two lists of books were selected, one comprising 15 widely used high school civics texts, and the other 22 authoritative treatises in ten social fields. Each of these books was objectively analyzed for issues by means of a specially prepared table of cue forms and phrases for the detection of issues.

This analysis resulted in two evaluated lists comprising 1,700 of the more prominent and insistent issues in American life to-day in the fields of government, practical politics, taxation, courts and the judiciary, foreign relations, immigration, criminology, labor and capital, education, and social welfare.

Five hundred fifty-nine replies to a questionnaire sent to one thousand social science teachers in the high schools of four midwestern states revealed that issues as such are given neither adequate attention nor effective treatment in high school social science classes.

Likewise, the analysis of high school civics texts shows these to be lacking in the frank presentation and treatment of stated issues.

The Grade Placement of Curriculum Materials in the Social Studies. Chester O. Matthews. Teachers College, Columbia University, Contributions to Education, No. 241, 1926. vi + 152 pp.

This investigation was undertaken for the purpose of determining the extent to which pupils in the public schools, in Grades 4 to 12 inclusive, comprehend various types of curriculum materials in the social studies.

By the use of numerous criteria seventy-two samples of reading and graphic materials were chosen for intensive study. These included episodes, descriptions, expositions, newspaper articles, graphs, and maps. A series of objective test questions was carefully constructed for each sample. These selections with their respective questions were administered with the coöperation of ninety-five public school systems, to nearly ten thousand children.

It was found that: (1) Ability to comprehend and interpret the reading and graphic selections gradually increased from the fourth to the twelfth grade; (2) circular graphs were most easily comprehended, line graphs were most difficult, and bar graphs were about midway between these two types. On the basis of the findings grade levels are indicated for each of the 72 samples of material studied.

The judgments of these selections will serve as a crude scale for comprehension difficulty, which will aid in the construction and grade placement of curricula utilizing similar materials.

"The Effect of Position of Printed Response Words Upon Children's Answers to Questions in Two-Response Types of Tests." Chester O. Matthews. *Journal of Educational Psychology*, 18: 445-457, 1927.

The purpose of the present study was to determine the effect of position of response words, "yes" and "no," on a true-false test. A test of one hundred items was constructed employing responses *Yes No* on one form and *No Yes* on an alternate form. This test was given to 280 Junior High School pupils divided into two equated groups on the basis of chronological age, mental age, and intelligence quotient.

It was found that: (1) There was a tendency for pupils to choose more often the response which was printed to the left of its alternative; (2) when only errors or incorrect responses were considered 6.1 per cent more of the pupils marked a given response when it was printed to the left of its alternative; and (3) there was found a correlation of .88 between the influence of position of printed responses and the difficulty of the items.

This constant error could be avoided by permitting the child to indicate his responses with a word or symbol rather than by printing the response words in the test.

"Articles in Educational Psychology in Current Issues of Other Magazines." Chester O. Matthews. *Journal of Educational Psychology*. 16, 17, 18; 1925-27.

The author published a monthly annotated bibliography under the above title.

"A Learning Experiment in the Social Studies." Laurance F.

Shaffer. *Journal of Educational Psychology*, 18: No. 9, 577-591, 1927.

This experiment attempted to compare the amount learned by a pupil from reading (1) a textbook narrative four times, (2) four differently worded textbook narratives, and (3) several arrangements of "episodic" reading material. The topic used was "The Industrial Revolution." All sets of stories contained the same facts, were of equal length, and of equal word difficulty. The subjects of the experiment were 650 pupils in the sixth, seventh, and eighth grades of public schools. Measurement was effected by tests of controlled completion type given before and after reading.

The results were negative. No reliable differences were discovered between the amounts learned from reading the same narrative four times, reading four different narratives, or reading the new more vivid "episode" material. The implication is that the form of reading material is not of great importance in learning when content, amount of practice, and degree of motivation are held constant, as they were in the experiment. The defense of "episode" materials such as are used in certain newer textbooks in the social studies must be based on their content and interest value rather than on factors inherent in their form.

"The Measurement of Children's Concepts." Laurance F. Shaffer. *Journal of Educational Psychology*, 19: No. 1, 41-44, 1928.

This article was a by-product of an exploration of the growth of social concepts such as "Democracy," "Americanism," and "Industrial Revolution" in the minds of children. In a previous study, *Children's Social Concepts*,[1] Dr. Hyman Meltzer had adopted an individual interview technique for determining the meanings these words had for children, rejecting group methods as unreliable and incomplete. The present study devised a successful group method of determining children's meanings which correlated highly with Meltzer's individual method and compared favorably to it in the breadth of response elicited. The article gave instructions for testing children's concepts by this group procedure.

Children's Interpretations of Cartoons. Laurance F. Shaffer. Teachers College, Columbia University, Contributions to Education, No. 429, 1930. vi + 73 pp.

The study of children's interpretations of cartoons had two objects. The first was to observe the nature and development of the ability to interpret symbolic drawings; to attack by a new method the problem of the development of symbolic thinking. The second purpose was to consider the usefulness of cartoons as curriculum material.

[1] Contributions to Education, No. 192. Teachers College, Columbia University. 1925.

Ten cartoons dealing with important social, political, and economic problems, such as appear on the editorial pages of newspapers, were used. These cartoons were presented to one hundred fifty school children in each grade from Grade 4 through Grade 12. In all, about three thousand children from all parts of the United States acted as experimental subjects. The question asked was, "What does this cartoon mean?" and the pupils wrote their answers.

Two methods were employed for analyzing the data. First, a product scale was constructed for the interpretations of each cartoon and all interpretations were scored quantitatively. Second, the interpretations were classified according to their essential meanings, for qualitative study.

It was found that: (1) The quantitative development of the ability to interpret symbolic drawings is gradual and fairly uniform from Grade 4 through Grade 12. By partial correlations, the ability was found to be about equally associated with Mental Age and with school progress, but uncorrelated with Chronological Age.

(2) The average age at which the interpretations were "abstract" rather than "concrete" in quality was 12.85. The fact of giving an "abstract" interpretation is an index of mental development, related to several of the Binet tests.

(3) The task of interpreting a symbolic drawing is one of reasoning, similar in nature and in errors to reading a paragraph, solving an arithmetic problem or performing an act of thought.

(4) Suggestions may be given for the effective use of cartoons as curriculum materials.

"Individual Diagnosis in Written Composition." Matthew H. Willing. *Journal of Educational Research,* 13: 77-89, 1926.

In this study comparison was made of two types of written compositions (original and reproductive) and a general correction of error test as devices for revealing to a teacher of beginning high school English what instruction each of his pupils may need in the formal elements of written composition.

Sixty-six ninth grade pupils in a large public high school near New York City wrote an original composition on an exciting experience, wrote a reproduction of an anecdote (presented to them orally in outline), and corrected a long theme containing some 180 formal errors of 85 different kinds. These performances were repeated eight weeks later under similar conditions.

Comparison of the results of these two series of measures led to the following conclusions: So far as economy, comprehensiveness, and reliability are concerned, the correction-of-error test used in this study is a far better instrument for revealing individual weaknesses in proofreading than is a single original or reproductive composition for revealing weaknesses in the formal elements of composition. What relation exists between weaknesses in proofreading and weak-

nesses in composing remains to be discovered. There seems at present, however, to be considerable justification for using systematically prepared, comprehensive proofreading tests for individual diagnosis and the planning of individual instruction. At any rate, the evidence against counting errors in a few compositions for this purpose is considerable.

Valid Diagnosis in High School Composition. Matthew H. Willing. Teachers College, Columbia University, Contributions to Education, No. 230, 1926. x + 64 pp.

The purpose of this study was to discover the relative validity of two procedures in diagnosing weaknesses of individual pupils in the formal elements of written composition. These two procedures are: (1) the analysis of performance in proofreading or error-recognition tests such as the Briggs, Charters, Cross, Pressey, and Wilson tests; and (2) the analysis of schoolroom themes.

The classified error count of twelve hundred words per pupil of classroom-written composition obtained from seventy pupils of Grades 8 and 9 of the Lincoln School served as a criterion against which test scores and single composition error counts were checked.

Coefficients of correlation between the more comprehensive formal tests and the criterion scores for all errors averaged .68. When more specific comparisons were made between the scores for exactly the same kinds of errors in both tests and criterion, the coefficients diminished with the number of kinds of errors considered, even while the reliabilities of both sets of measures remained high. The various coefficients computed point strongly to a real and essential difference between mere error recognition or correction and the accuracy of one's writing. This difference is so great that, for purposes of individual diagnosis at least, the formal tests are of little value.

Coefficients of correlation between error scores in single themes of two hundred words' length and the criterion scores averaged .81 for all errors and continued fairly high in the case of narrower comparisons. A short theme gives a much more reliable idea of a pupil's formal skill in composition than even very elaborate and extended proofreading tests. For determining the exact nature of his weaknesses, however, it is of little value, because the kinds of errors revealed are few in number.

New kinds of tests are needed for diagnosis, tests that will call forth responses more like those in actual composition.

Practice Exercises in the Mechanics of Written English for the High School. Matthew H. Willing. Teachers College, Columbia University, 1928. iv + 76 pp.

In this publication are presented illustrative exercises in English mechanics, together with analyses, keys, and diagnostic charts which the author developed in connection with his studies of instruction in the formal elements of written composition in the Lincoln School. On the basis of those studies the conclusion was reached that the regular, systematic, intensive, and individual use of formal proofreading exercises will produce much greater improvement in pupils' mechanical accuracy than the usual theme-writing procedures employed for that purpose.

MISCELLANEOUS PUBLICATIONS

Biological Foundations of Education. Otis W. Caldwell, Charles E. Skinner, and John M. Tietz. Ginn and Company, 1931. vii + 534 pp.

This volume is the result of several years of coöperative work in developing units of biological subject matter designed as a basis for interpreting human behavior. These biological units relate directly to education, psychology, and behavior. Biological evidences, experimental data, and discussions by specialists have been assembled from many sources and coherently arranged for use by students.

"A Study of Achievement in Various Engineering and Pre-Engineering Courses." A. W. Hurd. *Journal of Educational Research,* 23:25-30, 1931.

This research presents data showing that inconsistency as a variable trait is possessed by college students, and, as a rule, in greater degree by the better students. Grades in pre-engineering physics correlated most highly with grades in engineering courses.

"Age Versus Intelligence as a Basis for Predicting Success in High School." J. B. Maller. *Teachers College Record,* December, 1931.

The purpose of this study was to determine the relationship between age at entrance to high school, intelligence, and scholastic success in the high school, and the extent to which scholarship can be predicted from age and from intelligence. The study was based on the records of 5,753 high school graduates from four cities: St. Louis, Missouri; Springfield, Massachusetts; Trenton, New Jersey; and Sacramento, California. For each student there was available a record of intelligence based on a standard intelligence test, age at entrance to and graduation from high school, and the teacher's mark for each subject taken in high school. Teachers' marks were converted into standard scores and the average of all the marks was taken as the measure of scholarship.

The correlation between age and scholarship was found to be slightly higher than the correlation between intelligence and scholarship, .3960 and .3628, respectively. Scholastic success in high school may be predicted from age-at-entrance with as much (or as little) reliability as from the results of a standard intelligence test.

The results present also a series of tables showing the average intelligence and average scholarship corresponding to each group classified on the basis of age-at-entrance.

The Computation of Simple Correlations. J. B. Maller. Bureau of Publications, Teachers College, Columbia University, 1931. 4 pp.

This pamphlet is intended as a guide for use with the I. S. E. correlation chart. It describes in detail the preparation of a scattergram and the machine operations involved in the computation of correlations, means, sigmas, etc. It is intended for use by those who have had little or no training in statistics. A series of self-checking devices is presented to insure the accuracy of the computations.

NEW STUDIES IN EDUCATION

DEPENDABILITY IN PHILOSOPHY OF EDUCATION*

WHAT are the functions of philosophy in educational practice and research? What are the relations of philosophy and science in this field? And in what sense, if any, is philosophy dependable here? This study addresses itself to this area of difficulty, especially to the problem of the meaning and improvement of dependability in philosophy of education.

METHOD

The method was that of reflection upon materials derived from: (1) the history of philosophy and science; (2) extensive current literature concerning the relation of science and philosophy in educational research, the nature of science, the nature of philosophy, and related problems; and (3) cases in which scientific procedures and philosophic procedures were used. The entire dissertation is a statement of a point of view formulated through study of these materials.

The first chapter considers the place of philosophy in the study and conduct of education; the second emphasizes the important place which thinking, or deliberation, has in all inquiry; the third, fourth, and fifth chapters endeavor to show how philosophy has assisted, and is continuing to assist, education in distinctive ways through the building of conceptions, sensitivities, and methods; and the final chapter considers, in the light of the foregoing ones, what is properly meant by dependability in philosophy of education.

CONCLUSIONS

The point of view formulated may be indicated by the following statements which give gists of some of the conclusions reached. (1) Educational practice and research have become so complex and specialized that there is need for assistance from those who carry on research in basic assumptions and concepts used in education, as well as for assistance from those who devote their efforts more especially to experimental and statistical inquiry. (2) The method of philosophy and of science is fundamentally the same—careful problem-solving. The fact that there is a division of labor between them, and a corresponding specialization of efforts, introduces certain relative differences in the problems and procedures which tend to predominate in each of these branches of research. (3) The dependability of all kinds of investigation is influenced by

* By Ray Lepley, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 461.

many factors, such as the point of view of the investigator, care in statement of problem, care in search for and use of data, and the changeful character of social phenomena. (4) The dependability of philosophy (or of science) thus varies from inquiry to inquiry, and among different investigators. The degree of dependability is increased with the development of conceptions, sensitivities, procedures which are carefully examined and reconstructed in the light of ongoing research. (5) Philosophy has, in the past, helped in criticizing, constructing, and clarifying many educational purposes and practices, and it is still doing so. It has thus assisted, along with science and the practice of education, in building up conceptions, attitudes, and procedures which make its own processes of investigation increasingly dependable. (6) Philosophy of education is thus in varying degrees dependable for criticism, stimulation of further thought and action, theoretical construction, clarification, and interpretation. It is dependable in the sense that it is an ongoing, continuous process which moves forward (as does science) by utilizing both its successes and its errors.

AN ANALYSIS OF THE SUPERVISORY ACTIVITIES AND TECHNIQUES OF THE ELEMENTARY SCHOOL TRAINING SUPERVISOR*

IN STATE NORMAL SCHOOLS AND TEACHERS COLLEGES

THE purpose of this study is twofold: to determine and analyze the activities of the elementary school training supervisor in working with student teachers; to determine and analyze the techniques of the elementary school training supervisor in carrying on these activities.

PROCEDURES AND DATA

To accomplish the first purpose, a check list of 422 supervisory activities was prepared. Of these activities, 70 relate to children, 70 to student teachers, 138 to teaching, 77 to school and classroom management, 35 to administration of student teaching program, and 32 are miscellaneous activities.

Three hundred fifty-five elementary school supervisors of student teaching, working in 45 state normal schools and teachers colleges of 28 states, rated the activities from the standpoint of three criteria: (1) frequency of performance; (2) need of training; and (3) value to student teacher. The correlation technique was used to show reliability of data and validity of criteria. Decile ranks of the activities according to each criterion were computed.

Four hundred eleven student teachers in 6 normal schools and teachers colleges submitted statements in which they evaluated their experiences as student teachers.

Ninety-eight supervisory techniques were obtained from 17 supervisors in 10

* By HARRY N. FITCH, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 476.

state normal schools and teachers colleges and from 13 graduate students attending Teachers College, Columbia University.

FINDINGS

Every one of the 422 activities of the check list is performed by some supervisors. Only 14, however, are "100 per cent" activities, i.e., activities performed by all the supervisors. Of these "100 per cent" activities, 2 relate to children and 12 to teaching.

Forty-seven activities are *performed frequently* by 80 per cent or more of the supervisors. Of these 47 activities, 5 relate to children, 5 relate to the student teacher, 32 relate to teaching, 1 relates to classroom management, and 4 relate to administration of the student teaching program.

Forty-eight activities are reported in which 60 per cent or more of the supervisors wish they might have had training. These 48 activities include the study of children, the selection and organization of subject matter for teaching purposes, the study of teaching, the use of tests, and the study of the student teacher as a prospective regular teacher.

Seventy-one activities are reported by 80 per cent or more of the supervisors as being of *better than average value* in the training of the student teacher. Of these 71 activities, 11 relate to children, 5 relate to the student teacher, 52 relate to teaching, 2 relate to classroom management, and 1 belongs to the miscellaneous group of activities.

The decile ranks of supervisory activities, when all three criteria are considered, show that the interest of supervisors of student teaching is first in teaching, second in children, third in student teaching, fourth in administration of student teaching program, fifth in miscellaneous activities, and sixth in school and classroom management.

POSSIBLE APPLICATIONS OF FINDINGS

It is believed that the study will be of aid in defining what should be the work of a training supervisor of student teaching. Clearer definition should enable directors of training to make the work easier and more effective. The study should also furnish directors of training with information which may be used as a job specification in selecting training supervisors. Its chief value to directors of training, however, will probably result from their using the information obtained as a basis for a program of in-service improvement of elementary school training supervisors.

SCIENCE EDUCATION IN THE SECONDARY SCHOOLS OF SWEDEN*

A COMPARATIVE STUDY OF SWEDEN AND THE UNITED STATES

THIS study presents the educational practices of Sweden in natural science and hygiene instruction. It considers the present science program of the secondary schools and the teacher-training program of science teachers, and makes a

* By H. F. Kilander, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 463.

comparison of the science program of Sweden with that of the United States, including criticisms and recommendations which may be of value to science instruction in the latter country. The conditions both prior to and following Sweden's School Reform of 1927 are presented.

PROCEDURE

Direct observations and research were made in Sweden over a period of six months. Classes were visited. Conferences were held with science teachers, authors of science textbooks, members of the Royal Board of Education, and other educators. An extensive study of the literature in science education and general education was undertaken.

FINDINGS

The various types of public and private secondary schools offer six to eight years of training founded upon the third to the sixth year of the elementary school. Each school form has its prescribed curriculum.

The amount of science which every student in Sweden must study is rather extensive as compared with the amount that the average American student studies in the elementary school, high school, and junior college—the range in years in American schools which this investigation considers and compares. The Swedish state secondary school prepares the student for direct entrance to the professional schools (such as the medical and engineering) as well as to the universities. Consequently the modern or scientific course must give extensive training in the sciences. In the eight years of this school form—the fifth to and including the twelfth year of schooling—the total number of year-hours studied by all students in the modern course is: biology, 11.5; physics, 10; chemistry, 7; and further elective hours are 6, 8.5, and 6, respectively. In all the school forms biology receives the heaviest stress; physics slightly less than biology; and chemistry the least. Hygiene instruction is included with the biology work.

Science education begins earlier in the Swedish schools than in the American. Already in the elementary school the pupils have had some study in each of the sciences. In the secondary schools each science, as a rule, is taught yearly with one to three hours given weekly to each subject.

There is a definite sequence in the science courses. These integrate with each other and with such related subjects as mathematics and geography. A sequence of this nature is possible because there are no elective subjects except in the last two years of the *gymnasium*.

The instruction centers about the teacher and the class demonstrations rather than about the textbook. Individual laboratory work is limited, as the crowded curriculum does not permit it to be given to the extent found in the American schools. This limitation is offset by the numerous demonstration experiments.

The university training of the secondary school teacher is almost entirely academic and very extensive in his special fields. A year of practice teaching and two years of regular teaching are additional requirements for permanent appointment to the state secondary schools. The most frequent subject-combinations are mathematics and physics, physics and chemistry, biology and chemistry, and biology and geography.

The state normal schools for elementary school teachers give a science

training which, in terms of American high school subjects, is approximately equal to two years of each of the three major sciences. A new feature is the combination of physics with sloyd. This combination is being introduced into the elementary and intermediate schools of Sweden.

PROBLEMS IN THE TRAINING OF CERTAIN SPECIAL-CLASS TEACHERS*

THE purpose of the study was: (1) to present a digest and an analysis of the laws of the several states pertaining to the education and training of mentally-handicapped and physically-handicapped children in the public schools; (2) to give the rulings of state boards of education relative to the preparation of teachers for such classes and to evaluate these rulings in the light of plans suggested by expert students of, and selected teachers in, the field of special education; (3) to make a survey of the courses and curricula now offered in the various institutions of higher learning for the preparation of teachers and supervisors of special classes; and (4) to propose a teacher-training program for teachers of mentally-handicapped and physically-handicapped children in the public schools.

FINDINGS

Twenty-four states have laws providing for the education of handicapped children either in, or directly under the jurisdiction of, the public schools.

Sixteen of these twenty-four states have laws either mandatory or permissive in character, with certain prerequisites and limitations, for the establishment of classes for the mentally handicapped in the public schools.

Twenty-two states have passed laws relative to the education of one or more types of physically-handicapped children either in, or directly under the jurisdiction of, the public schools. The majority of these laws are permissive in character; a few, under certain limitations, are mandatory.

Seventeen states, by legislative enactments, have made provisions, under five different plans, for financial aid to districts conducting classes for either mentally-handicapped children, physically-handicapped children, or both groups of children.

Ten states, by legal enactments, make certain requirements for teachers of special classes. These enactments are of three forms: (1) that such teachers meet the requirements formulated by state commissioners of education; (2) that they be regularly trained elementary-school teachers; and (3) that they meet certain special requirements definitely stated in the laws.

Nineteen states have legislative provisions concerning courses of study, instruction, and special equipment for either or both the mentally-handicapped and for some one or more types of the physically-handicapped children, or for both classes of such children.

* By Louis M. Schleier, Ph.D. Teachers College, Columbia University, Contributions to Education, No. 475.

In eleven states, the state boards of education have made special rulings concerning the qualifications of teachers of special classes. These rulings, in general, are that special class teachers shall be regularly trained elementary school teachers; that they shall have had a definite number of years' teaching experience in the elementary schools; and that they shall have had certain technical training preparing them for this work.

Thirty-seven teachers colleges and eight normal schools in twenty-two states, and fifty-four colleges and universities in thirty states and in the District of Columbia offer courses, varying in number from one to twelve, for the preparation of teachers and supervisors of mentally-handicapped children.

Five teachers colleges, thirteen universities and colleges, and some private institutions train teachers for the physically-handicapped.

If the courses and curricula offered by the various institutions of higher learning and the standards formulated by state boards of education for teachers of special classes be judged by proposed plans and opinions of authorities and selected teachers in the field of special education, we find (1) that, by and large, they are in agreement concerning educational requirements needed prior to technical training; (2) that if all the various requirements concerning technical training for teachers of the mentally-handicapped were combined, they would compare favorably with the suggested standards; (3) that the few standards formulated for teachers of the various types of physically-handicapped children are too general and inadequate; and (4) that in most cases the amount of experience required in teaching the regular grades prior to becoming a special-class teacher is insufficient.

On the basis of the findings of this study a tentative program for training certain special-class teachers in state teachers colleges is proposed.

COLLEGE & ALUMNI NOTES

BOARD OF TRUSTEES OF TEACHERS COLLEGE

At the meeting of the Executive Committee of the Board of Trustees of Teachers College held at the College on Thursday, May 14, 1931, the following action was taken.

Professor Clyde J. Tidwell was appointed Editor of the TEACHERS COLLEGE RECORD.

The Trustees authorized the following appointment, to be in effect from July 1, 1931:

With a seat in Faculty of Education:

Frederick L. Fitzpatrick, Ph.D., to be Associate Professor of Natural Sciences.

At the meeting of the Committee held on October 15, 1931, the following action was taken:

The resignation of Dr. Thomas E. Benner, Visiting Professor of Education, was accepted as of June 30, 1931. Professor Benner became, on September 1, 1931, Dean of the College of Education of the University of Illinois.

The Trustees approved the following appointments:

With a seat in Faculty of Education:

Edgar Wallace Knight, Ph.D., Professor of Education at the University of North Carolina; Associate Editor of the *High School Journal*; and Consultant in General Education of the War Plans Division of the General Staff, to be Visiting Professor of Education for the academic year 1931-32.

Florian Znaniecki, Ph.D., Professor and Dean at the University of Posen; Vice-President of the Polish Psychological Society and of the Polish Sociological Society; organizer and Director of the Polish Sociological Institute, to be Visiting Professor of Education for the academic year 1931-32.

The Trustees authorized the following appointments to be in effect from July 1, 1931:

With a seat in Faculty of Education:

Heber Harper, Ph.D., D.D., LL.D., to be Professor of Education.

Ruth E. McMurry, Ph.D., to be Assistant Professor of Education and Associate in the International Institute.

The Trustees approved the following promotions of members of the staff:

With a seat in Faculty of Education:

John L. Childs, Ph.D., from Associate in Philosophy of Education to Assistant Professor of Education (from September 25, 1931).

With a seat in Faculty of Practical Arts:

Belle Northrup, A.M., from Associate in Fine Arts to Assistant Professor of Fine Arts (from July 1, 1931).

Professor Eleanor M. Witmer was promoted from Associate Librarian to Librarian of Teachers College (from July 1, 1931).

A NEW COLLEGE IN 1932

Teachers College, Columbia University, announces a plan for a new type of teacher-training institution to open September, 1932. It will operate as an undergraduate unit at the college level.

This new college, to be under the direction of Dr. Thomas Alexander, professor of education, Teachers College, will attempt to demonstrate radically different methods in the selection and training of young men and women who are to become teachers in nursery, elementary, and secondary schools. While preparing these young people for teaching positions the new unit, which will grant the Bachelor of Science and the Master's degrees, will operate also as a demonstration college in which graduate students in Teachers College may observe improved methods in teacher training.

In this respect the new college will be to the field of teacher training what the Lincoln and Horace Mann Schools of Teachers College are to the field of elementary and secondary education. As these schools attempt to create and demonstrate more effective procedures in elementary and secondary education, the new college will attempt to create and demonstrate improved procedures in the training of teachers for elementary, secondary, and nursery schools.

Rigid methods of elimination will be used in the selection of students. High school and college executives throughout America will be asked to coöperate in selecting those who show the richest promise of developing into highly competent teachers and educational leaders. Selection will be on the basis of good health, sound scholarship, desirable personal qualities, and promise of unusual growth. The student body will not be restricted to local sections of the country but will be chosen from a wide geographical area.

This unusual care in creating the student body, to be limited the first year to 100 young men and 100 young women of outstanding ability and personality, will be taken because it is felt that mediocrity is to-day the curse of the teaching profession. Insistence that half the students be young men is based on the conviction that teaching, almost monopolized at present by women, should be a profession for men as well.

The duration of the period of study in the college will vary from three to five years, approximately, according to the ability of the student, and will include at least one year spent in study and travel abroad. Students will be required to spend some time in actual work in industry and business so that when they become teachers they will have an adequate conception of the work of the world into which most pupils who graduate from our American schools must enter. One year of satisfactory teaching service in coöperating private and public school systems will be required before a degree is granted. Assurance of such coöperation has been obtained from a number of school systems.

Cost of attendance at the college probably will not exceed $1,000 a year. It is hoped that a number of scholarships may become available for unusually promising young men and women who wish to prepare for the teaching profession and who cannot meet tuition costs.

If the college is successful in achieving its purpose, not only will it itself develop teachers far superior to most of those of the present-day but its procedures will

be adopted by teacher-training institutions throughout the nation to bring an educational reconstruction that, first and last, depends upon a new race of teachers.

With its emphasis upon quality rather than quantity the new college, in so far as it succeeds and becomes influential in creating superior teachers, should tend to reduce the present oversupply of teachers of mediocre ability and personality and to make the teaching profession as attractive to American youth of superior ability and personality as those professions and callings in which only the superior person can achieve success that is measured by social usefulness as well as by financial remuneration.

Students in the new college will at first be housed in the present dormitories of Teachers College and will utilize existing classrooms and laboratories. It is hoped that eventually new buildings will be erected to house the college. Effort will be made to utilize to the utmost the opportunity which New York City provides as a rich cultural center. Moreover, the social life of the students will comprise an important factor of their training program.

Because problems of the future teacher will center about the child, the central core of the curriculum will deal with child nature and development and the students in training will have intimate contact, under careful guidance, with the children in laboratory schools of Teachers College and other institutions.

Because the future teacher must in a real sense be a social worker, the curricula of the college will provide courses in social economy, sociology, economics, politics, and problems of civic and industrial life, and will look forward to providing each student active participation in some form of social work. An all-year camp is planned as an adjunct to the college to provide opportunities for field work in physical education, biology, astronomy, and other fields of science.

The college will reject the traditional point system. Graduation will be based upon satisfactory examinations of practical as well as academic character.

Faculty members of the new college will be selected as carefully as are the students. There will be close, intimate association between the student body and an outstanding faculty to bring about the contact of mind with mind, that contact of the spirit of the teacher with the ripening enthusiasm of the pupil, which is the most important of all factors in education.

EDUCATIONAL ADMINISTRATION

The annual fall picnic of the students and staff in Educational Administration was held on Saturday, October 3, at the home of Professor and Mrs. George D. Strayer in Fieldston. Games and sports were provided for the guests, and a picnic supper was served in the late afternoon. A large number of former students and friends were present. Included among them was Dr. C. T. Loram, who has recently been engaged in educational work in South Africa and is at present professor of education at Yale University.

Professor Strayer has been appointed a member of the Board of Consultants to work on the National Survey of School Finance. This survey is being conducted by the Office of Education of the Department of the Interior, and is under the associate directorship of Professor Paul R. Mort.

The President's National Advisory Committee on Education, of which Professor Strayer is a member, met in Washington on October 5 and 6 for the purpose of determining their recommendations following their work of the past two years. Professor Strayer attended this final meeting of the Committee.

Professor Strayer addressed the Indiana State Teachers Association, at its annual meeting in South Bend October 9. His subject was "Education in a Changing Economic World."

The Nebraska State Teachers Association invited Professor Strayer to speak at its annual convention October 29, 30, and 31. The subjects of his addresses were "The Creative Work of the School Administrator," "Education in a Changing Economic World," and "An American Program of Education."

Professor Strayer has accepted appointment as a member of the Committee on Education and Service of the President's Conference on Home Building and Home Ownership.

Professor Strayer was present at a meeting of city school superintendents held in Baltimore October 10. This is the second meeting of the group which met in Pittsburgh last May.

Professor Strayer, as chairman of the Committee on Research recently appointed by the New York Commissioner of Education in connection with the New York State Educational Research Conference, called a meeting of the Committee in New York City on October 22.

Professor N. L. Engelhardt addressed the Associated School Boards and Trustees of the State of New York at their annual convention held in Syracuse October 12. His subject was "Financial Economies Which May Be Secured Through Improved Business Administration."

Professor Engelhardt was the speaker of the evening at the opening of the Parent-Teacher Association meeting in Mamaroneck, N. Y., October 14.

Professor Engelhardt delivered several addresses before the East Tennessee Education Association at its meetings held in Knoxville October 30 and 31. His topics were as follows: "How to Combat Efforts to Restrict Educational Offerings"; "Crystallized Attitudes Toward Public Education"; "Professionalized Techniques in School Administration."

Mr. R. DeWitt Morrison, formerly a student in educational administration, is now supervising principal of the Irvington, N. Y., Public Schools.

The following student assistants have accepted appointments in the department of Educational Administration for the year 1931-32: Messrs. John W. Sahlstrom, Garth H. Akridge, and J. Armour Lindsay.

The survey of the schools of Fort Worth, Tex., has been published by the Bureau of Publications, Teachers College. It is a volume of 438 pages. Sections are devoted to: (1) The Organization and Administration of Schools; (2) The Business Administra-

tion of the Schools; (3) The Population of Fort Worth and Its Growth; (4) The Present School Plant of Fort Worth; (5) The Proposed School Building Program; (6) School Finance; (7) School Opportunities and Their Organization; (8) The Professional Personnel; (9) The Supervisory Program; (10) The Curriculum; and (11) Health and Physical Education.

Professor Paul R. Mort met in Washington September 14 with a group of men prominent in education, designated as the Board of Consultants of the National Survey of School Finance, to discuss the tentative organization of problems for the national study.

From October 15 to 29 Professor Mort held a series of conferences on the National Finance Survey, with specialists in education, state government, and finance in the states of Minnesota, North Dakota, Montana, and Idaho.

Professor Mort spoke at Cleveland, Ohio, October 30 before two meetings of the Northeastern Ohio Teachers Association.

Professor and Mrs. John K. Norton spent the time between the end of the Summer Session and beginning of the Fall Session in a tour of the British Isles.

Professor Norton met September 26 and 27 with the Character Education Commission of the National Education Association at the Pennsylvania Hotel, New York City.

Teachers' Salaries, by Dr. Willard S. Elsbree, has recently been published by the Bureau of Publications, Teachers College.

W. B. Featherstone has been appointed research associate in the department of Educational Administration for the year 1931-32.

Eugene S. Lawler, who was research associate in educational administration last year, has been appointed senior specialist in connection with the National Survey of School Finance, with headquarters in Washington.

Members of last year's first major course have accepted the following positions for this year:

Anderson, R. S.—statistician for the public school system of Washington, D. C.

Allman, J. I.—superintendent of schools, Dalton, Ga.

Arnold, W. E.—research assistant, Ohio State University, Columbus, Ohio.

Eckelberry, J. H.—superintendent of Consolidated District No. 3, New York Township, Caldwell County, Mo.

Erickson, A. G.—superintendent of schools, Ypsilanti, Mich.

Hinman, Harriet L.—head of research department, board of education, Toledo, Ohio.

Jones, Hiram A.—director of health and physical education, State Department of Education, Albany, N. Y.

Ward, W. T.—superintendent of schools, Deerfield, Kan.

Members of last year's second major course have accepted the following positions for this year:

Cyr, F. W.—associate in rural educa-

tion, Teachers College, Columbia University.

Henderson, J. Hugh—assistant director of research, State Department of Public Instruction, Harrisburg, Pa.

Luehring, F. W.—professor of physical education, and assistant to dean, University of Pennsylvania.

Nelson, J. F.—assistant to president of the Hamehameha Schools, Honolulu.

Odell, W. R.—associate in commercial education, Teachers College, Columbia University.

Oertel, E. E.—superintendent of schools, Mountain Lakes, N. J.

Peters, David W.—supervisor of secondary education, State Department of Education, Richmond, Va.

Preston, E. C.—principal of the Roosevelt School, New Rochelle, N. Y.

Quick, L. R.—science teacher, Yonkers High School, Yonkers, N. Y.

Spacht, C. A.—principal of the Henry Barnard School, New Rochelle, N. Y.

Tyler, T. F.—executive assistant to the director of research, National Education Association, Washington, D. C.

White, H. E.—superintendent of schools, Westport, Conn.

Mr. Charles F. Reid, former member of the classes in educational administration, is now visiting inspector of schools of the Bronx, New York City.

Dr. John M. Matzen, who took his doctorate in the department of Educational Administration, is now assistant professor of school administration in the University of Nebraska, Lincoln, Neb.

The Administration Club has organized for another year of work. The officers elected were: president, Omer Carmichael; secretary, Amos C. Pence; and treasurer, Jonathan W. Varty. All three are graduate students in the department of Educational Administration. Mr. Carmichael was formerly superintendent of schools in Selma, Ala., and Tampa, Fla. Before coming to Teachers College Mr. Pence was engaged in high school work in his native state, Missouri, and in Cristobal, Canal Zone; and Mr. Varty was in junior high school work in Flint, Mich.

The Administration Club includes in its membership each year the students and members of the faculty of the department of Educational Administration, as well as former members of the Club located in near-by cities. The Club meets regularly during the scholastic year at the home of Professor and Mrs. Strayer in Fieldston.

Dr. Guy L. Hilleboe has been appointed director of elementary education and assistant to the superintendent of schools at Elizabeth, N. J. During the summer Dr. Hilleboe taught courses in administration at the State Teachers College, Mayville, N. D.

Dr. Don L. Essex, graduate student in educational administration, is now affiliated with the New York State Department of Education. His official title is Assistant, School Buildings and Grounds Division.

Legal Limitations on School Bonds and Taxation, the dissertation, prepared by Dr. James H. Smith, Superintendent of Schools, West Aurora, Ill., has been most significantly used in the development of a new bonding bill recently passed by the House of Represen-

tatives and the Senate in Illinois and approved by the Governor. This Bill makes possible the provision of adequate building facilities for school districts having a population of 300,000 or less in the State of Illinois.

Mr. Howard T. Herber, formerly principal of the Hamilton School, Weehawken, N. J., has been elected superintendent of schools at Malverne, L. I.

The Doctor's dissertations of the following former students in the department of Educational Administration have been published by the Bureau of Publications, Teachers College: Dr. Foster E. Grossnickle—*Capital Outlay in Relation to a State's Minimum Program;* Dr. Franklin C. Ketler—*Reserve Funds in Public School Finance;* Dr. Arthur M. Proctor—*Safeguarding the School Board's Purchase of Architect's Working Drawings;* Dr. Max R. Brunstetter—*Business Management in School Systems of Different Sizes.*

State Superintendent Charles A. Lee of Missouri writes under date of April 29, 1931, as follows:

I am happy to advise you that our Governor has signed the most constructive piece of school legislation enacted in this state since the establishment of free public schools. The essential features of the law are as follows:

1. An eight months' term is guaranteed to all districts.

2. Each student is guaranteed eight years of elementary and four years of high school training.

3. The entire state will be re-districted into optional enlarged school districts by a County Board of Education in each county. Each proposed school district must contain fifty square miles of territory or have in lieu thereof an assessed valuation of $1,500,000.

4. Each elementary teaching unit is guaranteed $750 and each high school teaching unit $1,000 for current expenses on a local levy of two mills.

5. Free high school tuition is provided for all rural boys and girls; the state will pay $50 per student and the local district will pay the remainder.

6. State aid for transportation is provided to the amount of $3.00 per month for each child transported a distance of two miles or more.

7. When any enlarged school district builds a new building the state will pay toward the cost of said building $1,000 for each one-room rural school abandoned.

8. Free textbooks for all children in the elementary schools are provided.

9. Our state school fund is increased from $5,000,000 to $8,500,000 per year. The $8,500,000 will be apportioned as follows: About two and one-half millions will be spent for transportation, high school tuition, and state aid to the wealthy districts above the minimum guarantee and the remainder will be used as an equalizing fund to bring all districts up to the minimum standard.

10. We are securing our additional money from a graduated state income tax of one to four per cent.

The school legislation mentioned above embodies some of the results secured from the state-wide educational survey made in Missouri in the fall of 1929 under the auspices of the Division of Field Studies, Teachers College, Columbia University.

Dr. Lee Byrne, whose Doctor's dissertation on *Check List Materials for Public School Building Specifications* was recently accepted, has been appointed visiting professor of secondary education with the rank of full professor, at New

York University. His work began September, 1931. Dr. Byrne will be on leave of absence from his present position at Northern State Teachers College, Aberdeen, S. D.

One of the most comprehensive and valuable studies on finance which has come to the Administration Laboratory this year from school systems is that by Superintendent W. A. Denny, on *Public School Educational Costs in Anderson, Indiana.* All phases of educational cost are treated clearly and definitely in this document.

ADULT EDUCATION

Professor John D. Willard delivered an address to the Delaware Library Association October 30, and to the teachers of adult classes in Delaware October 31.

On September 28 and 29 Professor Willard attended a meeting in Washington of the Committee on Farm and Village Housing of the President's Conference on Home Building and Home Ownership, and presented a report for the Subcommittee on Guidance and Education, of which he is chairman.

ADVISERS OF WOMEN

In October Professor Sarah M. Sturtevant addressed the Colorado State Teachers Association in Denver, Pueblo, and Grand Junction on "The Guidance Program in the High School," and the Colorado Association of Deans of Women on "Problems in the Field of Guidance."

Professor Sturtevant was the guest of the Iowa State Teachers College at Cedar Falls October 26. She held a number of conferences with students and faculty on subjects relating to college activities.

During the summer Miss Harriet Hayes visited Scripps College, the University of California at Los Angeles, and the California Institute of Technology for the especial purpose of studying their provisions for student housing.

Miss Mildred Fischer (Teachers College 1927), who has been dean of women at the State Teachers College, Mansfield, Pa., has been appointed to a similar position in the Teachers College at West Chester, Pa. Her successor at Mansfield is Miss Victoria Frederick, who recently acted as one of the heads of residence at New Jersey College for Women.

CHILD DEVELOPMENT INSTITUTE

Professor Lois Hayden Meek attended the final meeting of the National Advisory Committee on Education in Washington, D. C., during the first week in October. On October 20 she attended the annual meeting of the Child Study Association of America and spoke on "A Survey of Significant Trends in Parent Education." Professor Meek will attend the annual meeting of the National Association for Nursery Education to be held in Philadelphia November 12, 13, and 14 where, as chairman of the Association, she will take an active part.

Professor Arthur T. Jersild was a speaker on Program A at the meeting of the American Psychological Associa-

tion held in Toronto in September. His address was "A Study of the Relative Influence of Training and Maturation in Young Children."

An article by Professor Jersild on "The Influence of Adrenal Extract on Behavior and Mental Efficiency" was published in the July issue of the *American Journal of Psychology*.

Professor Meek has contributed a chapter in the book, *Psychology at Work*, to be published by McGraw-Hill Book Company, Inc. The material for this volume was derived from a series of lectures on psychology and its useful applications, arranged by the Psychological Corporation and delivered under its auspices in New York City during the winter of 1930.

The Child Development Institute held its first Parent-Institute Day on September 28 when all the parents of children enrolled in the nursery schools of the Institute met with the staff in order that they might understand the services of the Institute, and also that an integration of school and home programs might be effected. Luncheon was served by the nutrition staff.

A new course given at the Child Development Institute for those connected with day nurseries had its first session September 26. Thirty-five students were enrolled.

Miss Grace Langdon spoke October 10 at a Follow-up Institute of the White House Conference on Child Health held in Springfield, Mass., under the auspices of the State Department of Health.

The following Fellows in parent education are studying at the Institute this year: Miss Juliet Bell of Michigan, Miss Sannie Callan of Florida, and Miss Margaret V. Peterson of Iowa.

An exhibit of parent education literature was held at the Child Development Institute from July 27 to July 31. Various materials of interest to parent educators, collected during the past year by Miss Wanda Greenberg, librarian, were displayed at this exhibit. Some of these materials were directly published for parent education, others could be incorporated in parent education programs in various ways. A total of sixty-eight agencies was represented, distributed as follows: 21 national agencies; 7 state departments; 20 schools and colleges; 4 foreign agencies; 11 local agencies; 5 commercial agencies.

The exhibit included also a series of educational posters, American and foreign, among which Professor L. H. Meek's collection of Soviet Union posters in parent education was of particular interest.

An interesting collection of action photographs of children in the Institute's nursery schools was included in the exhibit.

All exhibit materials are now available for inspection and study at the Institute Library.

Mr. Ralph P. Bridgman, formerly director of the Parents' Council, Philadelphia, has recently joined the staff of the Institute in the capacity of research associate in Parent Education. He spoke July 31 at the Thirteenth Annual Farm and Home Week Program of the Massachusetts State College at Amherst, Mass.

His topics were "Family Life To-day and the Children of To-morrow" and "Discipline and Character."

Miss Christine Heinig was one of the discussion leaders in the group devoted to Trends in Preschool Child Play Administration of the Recreation Congress for the United States and Canada, which was held in Toronto, October 5 to 9.

During the past year a coöperative playground has been developed by Miss Heinig, director of the older nursery school group, and Miss Helen Day, superintendent of The Sheltering Arms Orphanage which is directly across the street from the Institute. Miss Day and Miss Heinig have described the playground and its equipment in an article recently published in *The Child Welfare League of America Bulletin.*

An exhibit was sent to the International Congress on Childhood which was held in Paris during July and August. The exhibit contained a set of the Child Development Monographs, informative pamphlets regarding the work of the Institute, and a set of reprints of articles published by staff members.

Miss Margaret Frances Allen, director of the Lower School of the Fieldston Ethical Culture School of New York City, was on the staff of the Child Development Institute this summer supervising student teaching and collaborating with Dr. Winifred E. Bain in a course on nursery school education.

CURRICULUM

During the academic year 1931-32 students majoring in the Curriculum will have the privilege of coöperating in the curriculum field work being carried on under the direction of Professor Herbert B. Bruner at Pottstown and Pottsville, Pa., and in Allegany County, Md. In Pottsville the work is being done for the first time this fall. It consists of an orientation program of lectures and discussions on some of the major issues of life and education and the fundamental principles of curriculum construction. It is under the direction of Mr. L. A. BuDahn, superintendent of schools.

In Pottstown, where the work is in its second year, the students will have an opportunity to assist in and criticize a program of course of study adaptations. The Pottstown teachers, following their year of discussions which were carried on in 1930-31, have accumulated most of the courses of study judged outstanding in the country and have decided to adapt these courses to the needs of their own community as far as practicable and to produce new material when necessary. In Pottstown the work is under the direction of Superintendent F. Herman Fritz.

In Allegany County, where the teachers have been working for three years under the consultantship of Professor Bruner and Miss C. Mabel Smith, the students will have an opportunity to see courses of study in certain fields put into practice. These courses have been developed through the coöperative efforts of the teachers of this county and have been installed in the mountain rural schools and village schools as well as in the city of Cumberland. The work in Allegany County is under the general supervision of Mr. Charles L. Kopp, superintendent of schools, Miss Lillian C.

Compton, director of curriculum, and Mr. James Spitznas, director of secondary education.

In May, 1931, the first matriculation examinations in the Curriculum were given. Four applicants for the Ph.D. degree passed the examinations: Mr. I. Keith Tyler, Mr. Samuel Everett, Mr. Israel Eisenberg, and Miss Katherine Lynch. Mr. Tyler has accepted a position as director of research and curriculum in Allegany County, Md. Mr. Everett is research associate in the Lincoln School. Mr. Eisenberg is principal of East Midwood Jewish Center, Brooklyn, N. Y. Miss Lynch has accepted a position as assistant professor of education at the State Teachers College, Buffalo, N. Y.

Professor L. Thomas Hopkins spent the first two weeks in June at Long Beach and Pasadena, Calif., in his capacity as curriculum consultant for these two city school systems. Most of the time was given to consultation with curriculum committees.

From June 15 to 26, inclusive, Professor Hopkins was at the University of Idaho, at Moscow, meeting members of the curriculum committees for the State of Idaho. During the same period he lectured on the curriculum at the State College of Washington, at Pullman.

On July 28 he gave a lecture at the University of Pennsylvania on the "Unit of Work Curriculum," as one of a series of lectures dealing with curriculum problems in the elementary school.

On Sunday, September 6, he addressed the teachers and directors of the Protestant Church Schools in Birmingham, Ala., upon the curriculum for religious schools. During the week of September 7 he was in Jackson, Miss., lecturing upon curriculum revision and conferring with county superintendents, principals, and teachers concerning methods of undertaking curriculum revision programs.

The Social Studies Course for the Primary Grades and the Arithmetic Course for the Elementary Grades for the State of South Dakota, where Professor Bruner has been acting as consultant for the past year and a half, were off the press in September. Several other courses will be printed during the year 1931-32. Coincident with the installation of the courses of study this fall, classes are being offered in the teachers colleges in which students can receive training in the function and use of the new state materials. Dr. Bruner consulted with the members of the staffs of these colleges during the past two years and will meet with them again this year.

Professor Bruner met the Central Curriculum Committees of the State of Virginia at Richmond October 21, 22, and 23 at the invitation of Superintendent Sidney B. Hall, and attended a curriculum conference October 30 and 31 which was held under the auspices of Northwestern University at Evanston, Ill. At this conference he read a paper on "The Significance of the Curriculum Movement in the Public Schools of America."

Professor Bruner spoke before the annual meeting of the American Library Association June 27 on "The Librarian and the Curriculum Construction Movement—A Plan for the Construction and Use of a Scientific Program of Library Instruction."

During June Professor Bruner deliv-

ered a series of lectures on curriculum construction and installation at the University of Oklahoma at Norman, at the Oklahoma Agricultural and Mechanical College at Stillwater, at the Southeastern State Teachers College at Durant, and at the Northeastern State Teachers College at Tahlequah.

EDUCATIONAL PSYCHOLOGY

Professor Arthur I. Gates spoke before a convention of Rhode Island teachers held in Cranston, R. I., May 1, on the following topics: "Some Aims and Methods of Progressive Education" and "Some Improved Methods of Teaching Reading."

Professor Rudolf Pintner was awarded the honorary degree of Doctor of Humane Letters by Gallaudet College in Washington in recognition of his work in the psychology of the deaf.

Professor Leta S. Hollingworth conferred in Harrisburg, Pa., October 10 with superintendents and teachers from Altoona, Elkins Park, and Wayne, where special projects are being initiated to take care of the education of exceptionally capable children. The conference was held under the auspices of the Pennsylvania Survey, which is being conducted jointly by the Carnegie Foundation for the Advancement of Teaching and the presidents of Pennsylvania colleges.

EDUCATIONAL SOCIOLOGY

Professor Daniel H. Kulp, II, is at present on sabbatical leave. He plans to spend part of the year in China writing a second volume on the Chinese urban family. The first volume is entitled *Country Life in South China*; the new volume will deal with Chinese urban life. Professor Kulp expects to tour the Orient and Europe also.

Mr. C. E. Arnett is giving Professor Kulp's Social Science 101-2 this year.

Professor David Snedden gave a series of lectures during the summer at various institutions in the West. He has recently had published by the Bureau of Publications, Teachers College, a book entitled *Towards Better Educations.*

Dr. Florian Znaniecki, the Polish sociologist, is giving two courses in this department this semester.

ELEMENTARY EDUCATION

Professor J. R. McGaughy spent the week beginning September 7 as one of the speakers at the Southwest Texas Teachers Institute in San Antonio, Tex.

Professor W. A. McCall, in collaboration with Mr. David Houser, has written *The New McCall Speller*, published by Laidlaw Brothers. In collaboration with Amy J. DeMay, Professor McCall has written *Rapid Survey Tests in Fractions* and *Standard Test Lessons in Fractions*, which are published by the Bureau of Publications, Teachers College. *Multi-Mental Scale, Form 2*, by Professor McCall and Dr. Harriet Barthelmess is also published by the Bureau of Publications.

Professor McCall has edited, in collaboration with Dr. Lelah Mae Crabbs, twenty bulletins for the *Teachers Lesson Unit Series.*

ENGLISH

Professor Allan Abbott addressed the English teachers of Maine at Portland, Friday, October 30, on the topic, "Stimulating Interest in Reading."

Professor Ida A. Jewett is to give two addresses at the meeting of the National Council of Teachers of English, held in Milwaukee at Thanksgiving time. Her topics are "Teacher Training in Leading European Nations" and "Criteria for Selecting the Subject Matter of Courses in English."

Mrs. Imogene Cowles is absent on leave for the Winter Session. Her courses are being given by Miss Doris A. Bridges.

The English Seminar Room is now 318, Main Hall. This change will make possible an extension of the facilities available to research students in the department. The Seminar Room is in the charge of Miss Catharine B. Williams (A. B. Sweetbriar, M. A., Teachers College), recently appointed assistant in English.

FINE ARTS

Miss Lucia W. Dement spent six weeks in May and June visiting schools and related art institutions from Memphis, Tenn., to the Chicago vicinity. She spoke to the teachers of Memphis, the Art Association of Springfield, Ill., and the Parent-Teacher Association of Dixon, Ill. In Memphis she found a remarkable art situation in which a child can go from a rural school through an art academy under civic support.

Miss Elise Ruffini is giving a series of fifteen lectures on creative design at Hartford, Conn. The series began October 8.

HEALTH AND PHYSICAL EDUCATION

Professor Jesse Feiring Williams addressed the health and physical education teachers of Terre Haute, Ind., October 21. He spoke October 22 before the Indiana High School Athletic Association at Indianapolis. His topic was "Physical Education in Our Modern World."

Professor Clifford L. Brownell is giving an extramural course on Health Education for Elementary Schools in Hartford, Conn. The course is open to classroom teachers, supervisors, principals, school physicians and nurses, and teachers of health and physical education.

Professor Brownell addressed an assembly at Central State Teachers College, Mount Pleasant, Mich., October 21. He spoke October 22 before the Physical Education Section of the Michigan State Teachers Convention, Saginaw, Mich.; on October 23, before the Physical Education Section of the Michigan State Teachers Convention, Jackson, Mich.; and October 30 before the New York State Teachers Convention at Rochester.

Dr. F. W. Maroney, who recently joined the staff as associate, addressed the Vermont State Teachers Association, at Burlington, Vt., Friday, October 9. Dr. Maroney spoke to the Michigan State Teachers Association at Detroit

October 29 and on October 30 he addressed the Ohio State Teachers Association at Toledo, Ohio.

Miss Josephine Rathbone was toastmistress at the opening banquet of the New York and New Jersey Chapters of the American Physiotherapy Association which was held on Tuesday, October 13.

The Stuyvesant Field Hockey Association, of which several students from the department are members, will play the Scotch Touring Team of Scotland at the Westchester Biltmore Country Club November 7.

Miss Marjorie Hillas, in the absence of Miss Shedden, has assumed the chairmanship of the Women's National Official Rating Committee.

HISTORY OF EDUCATION

Professor Willystine Goodsell has been elected a member of the Board of Directors of the American Eugenics Society.

HOUSEHOLD ARTS

Professor Cora M. Winchell gave on October 10 the address at the dedication of Merrill Hall, the new building at the University of Maine which houses the threefold program of home economics on that campus—resident teaching, research, and extension. The building is named in honor of Leon Stephen Merrill, dean of the College of Agriculture.

Professor Winchell spoke before the Home Economics Section meeting of the Eastern District Teachers Association, New York State, in Schenectady on October 22. She discussed the responsibility and the opportunities of the teacher of home economics in making effective the findings of the White House Conference on Child Health and Protection.

Professor Wilhelmina Spohr spent her leave of absence last spring in taking a trip around the world. She visited Hawaii, Japan, China, the Philippines, Java, the Malay States, Burma, India, Ceylon, Egypt, and Palestine.

Professor Lillian H. Locke will speak at the November meeting of the Pennsylvania State College Philadelphia Alumnae Club on November 7. Her topic will be "Personality and Dress."

Miss Pearl S. Green (M. A., Teachers College, 1923) is head of the department of home economics at the University of Maine.

KINDERGARTEN-FIRST GRADE

The members of the staff and students in Education 331E have been invited by the Board of Education and Superintendent H. A. Wann of Madison, N. J., to make a survey of the kindergartens and first grades in that city. This study will be made to help the teachers in the kindergarten and first grade to organize a curriculum.

During the Summer Session the members of the Nursery School and Kindergarten-First Grade department held a dinner at the American Woman's Association. An interesting program was presented. The theme of the talks was "Woman's Place in a Changing World." Dr. Winifred E. Bain presided as toastmistress. The speakers were Dr.

Mary Crawford, vice-president of the A. W. A., Dr. Martha Root, journalist and traveler, Professor J. R. McGaughy, and Professor Patty S. Hill. In the afternoon the students were entertained by officers of the A. W. A. They were taken through the clubhouse and given an idea of the activities of this unusual institution.

Dr. Mary M. Reed spent a month in Europe after the Summer Session, visiting friends in Germany, Austria, and Switzerland.

Professor Winifred E. Bain gave a talk September 28 before the Parent-Teacher Association of the Evergreen School, Plainfield, N. J., on "Problems of the School Entrant."

Miss Agnes Burke spoke to the kindergarten-primary teachers at Grand Rapids, Mich., September 14, on the topic "Dramatic Play."

Miss Alice Dalgliesh is giving part of her time this year to the Teachers College Library as consultant on children's books. Her new book for children 7 to 9 years of age, *The Blue Teapot*, was published by Macmillan Company, September 29.

LATIN

Professor W. L. Carr was elected president of the American Classical League June 27 and has been serving in that capacity since July 1.

As a guest speaker at the Ohio Classical Conference which was held at Marietta, October 31, Professor Carr read a paper on "Helen of Troy and the Moralists."

Professor Carr will give an address November 27 before the Virginia Classical Association, which will meet at Richmond.

LIBRARY

A mimeographed bibliography (five pages), entitled *Instruction in the Use of Books and Libraries*, has been issued recently by the school library laboratory of Teachers College Library. Books, periodicals, and state and city courses of study on library instruction are listed. Copies of this bibliography will be mailed free upon request accompanied by two cents for postage.

LINCOLN SCHOOL

Professor Jesse H. Newlon participated in the summer session at Western State College, Gunnison, Colo., and at the State Teachers College at Chadron, Neb. He gave an address at the Conference on Secondary Education held at the Colorado State Teachers College in June.

Two volumes issued this summer by the Bureau of Publications, Teachers College, represent studies carried through by Lincoln School staff members. The books are *Units of Work; Indian Life and the Dutch Colonial Settlement* by Katharine Keelor and Mayme Sweet, and *The Relative Merits of Cursive and Manuscript Writing* by Thelma G. Voorhis.

Miss Helen C. Joyner gave courses in fine arts in the College of William

and Mary at Williamsburg, Va., during the summer session.

Miss Lula E. Wright gave courses in kindergarten-primary methods and progressive practices in elementary education in the summer school of the University of California.

Mr. Lester Dix gave courses in the summer session at State College, Pullman, Wash., on curriculum construction and on the functions and methods of the elementary school.

Mr. Gilbert F. Loebs gave courses in health education and physical education activities in the summer school at Bates College, Lewiston, Me.

Mr. Colba F. Gucker opened Camp Whippoorwill for Girls, a sister camp to Camp Lincoln for Boys, at Keesville, in the Adirondacks.

Miss Lilian L. Stevens taught courses in child study and language in the department of elementary education at the University of North Carolina at Chapel Hill during the summer.

Mr. Irving Cheyette is co-author of *Four-Tone Folio*, a collection of instrumental quartets published by Carl Fischer, Inc. He recently gave a series of five lectures on "A Psychological Approach to Instrumental Music Training" before the Boston Diocese of the Catholic Teachers Institute.

Dr. Fred Strickler delivered a series of six lectures during the summer at the Art Students' Guild at Ridgewood, N. J. He has recently been elected a trustee of this group.

MATHEMATICS

Professor W. D. Reeve returned August 22 from his trip around the world. He lectured to teachers and students in Fresno and San Francisco, Calif., to the students of the University of Hawaii, and to the mathematics teachers of Honolulu. He spent seven weeks visiting the German schools, and spoke at several educational meetings while in Germany.

Professor Reeve addressed a group of eight hundred teachers of mathematics at the George Washington High School in New York City on September 15.

Professor C. B. Upton spoke before a group of teachers in Yonkers, N. Y., September 13 on the "Teaching of Primary Arithmetic," and before the teachers of Scranton, Pa., October 22 on the "Teaching of Arithmetic in the Intermediate Grades."

Professor Upton addressed the Mathematics Section of the New York State Teachers Association for the Southeastern District, October 30, at its annual meeting in New York City. His topic was "Algebra for Thought Rather than Manipulation."

Miss Ethel Sutherland, instructor in mathematics, gave two talks on the "Teaching of Arithmetic" before the Onondaga County Teachers Association held at Syracuse, N. Y., September 10. She also held conferences on arithmetic with the Cumberland County Institute at Carlisle, Pa., October 13 and 14. She addressed the teachers of Scranton, Pa., on arithmetic October 29.

Mr. J. A. Swenson lectured and gave some demonstration classes at the University of Wichita, Kan., in June.

Mr. Herbert Hamley, of the London Day Training College in London, gave two courses in mathematics at Teachers College during the Summer Session.

Mr. Clifford Bemis, head of the mathematics department of the State Teachers College in St. Cloud, Minn., is assisting in mathematics, and studying in Teachers College this year.

MUSIC

The fall term opened with the following members of the staff: Professor Peter W. Dykema, who returned the middle of September from eight months in Europe; Professor Alice E. Bivins, Professor N. L. Church, Mr. Robert Elwyn, Miss Abby Starkey, Mr. Howard A. Murphy, Miss Edith Hitchcock, Mr. Kenneth Damon, Mr. Raymond Burrows, Miss Elsa Findlay, and Dr. Willem Van de Wall. Mr. Alton O'Steen is also assisting in the department this year for the first time.

Mr. Herbert Norris has accepted a position in the East Tennessee State Teachers College at Johnson City.

The registration in the music department, in proportion to that in the College as a whole, shows an increase. It has been necessary this year to add Saturday afternoon classes to those which have regularly been scheduled and three classes are now being given simultaneously in that period: keyboard harmony, teaching appreciation, and teaching Dalcroze eurythmics.

The Bureau of Publications, Teachers College, has recently issued a volume by Professor Dykema, on *Music for Public School Administrators.* The preface consists of a single sentence: "The purpose of this small book is to present enough of the theory of what music should be in a rich life and enough of the practice of teaching it in good school systems to enable the administrator to evaluate sympathetically and wisely the course of study and classroom procedure in his own school system."

Professor Bivins is giving a complete extension course in Bridgeport, Conn., on Newer Practices in Teaching Music in Schools. She is also giving two lectures in an extension course presented by a number of the members of the faculty of Teachers College in Scranton, Pa.

C. C. Birchard & Company have recently published the second volume of the Modern Orchestra Training Series by Professors Church and Dykema. This new volume contains more advanced material than that included in the first volume, but it, too, is intended for players of very individual efficiency.

NATURAL SCIENCES

Professor F. L. Fitzpatrick, formerly head of the biology department, Coe College, has been appointed associate professor of natural sciences, Teachers College.

NORMAL SCHOOL EDUCATION

Professor William C. Bagley collaborated with Dr. A. J. Klein of Ohio State

University in a survey during May and June, 1931, of the Negro colleges of North Carolina.

Between June 15 and June 25 Professor Bagley gave two series of lectures at Colorado State Teachers College at Greeley.

During the last meeting of the National Education Association at Los Angeles, Dr. Bagley was elected president of the National Council of Education for the three-year term ending 1934, succeeding Dean Lester Smith of Indiana University.

Professor Bagley addressed the Annual Conference of the Massachusetts State Normal Schools held at Bridgewater, September 10.

Professor Evenden attended a conference October 2 and 3 in Washington with Dean Haggerty of the University of Minnesota and President Zook of the Municipal University of Akron, in order to coördinate the work of the National Survey of the Education of Teachers and the intensive study of college standards which is being started under the direction of the North Central Association.

Professor Thomas Alexander and Miss Florence B. Stratemeyer made a trip to Harrisonburg, Va., this fall to work with three students who are doing practice critic teaching.

NURSING EDUCATION

Miss Marjorie Stimson, instructor in nursing education, was granted a travel fellowship through the Rockefeller Foundation, allowing her to observe nursing activities in England and Central Europe from June to September. She was particularly interested in rural public health nursing as done in Scotland, France, Jugoslavia, Hungary, and Poland. It is expected that this experience will provide greater insight into the needs, both in theory and practice, of those foreign nurses who come to Teachers College.

NUTRITION

Professor H. C. Sherman during the summer delivered lectures on the chemistry of nutrition at Iowa State Agricultural College, Washington State University, University of Idaho, and Oregon State Agricultural College.

In connection with Professor Bruner's June course in the curriculum, Professor Mary S. Rose directed the practical work of ten students who wished to specialize in nutrition. Eight of these were representatives of the nutrition service of the American Red Cross, who came in from their various field positions for this work, at the suggestion of the director of the service, Miss Clyde B. Schuman. Another came from the nutrition staff of the Nassau County New York Tuberculosis and Health Association. Through the kindness of Dr. Abby Porter Leland, principal of the John Hancock School, these students were able to use this school as a laboratory for the development of teaching units in nutrition in Grades 3 to 6.

During the spring a respiration chamber for the study of the energy costs of children's activities was installed at the Child Development Institute and some

preliminary experimental work carried out with it. It is now being used for research in this important field of investigation by advanced students in the department of nutrition.

Professor Grace MacLeod spent two months during the past summer traveling in the British Isles. In London she visited the laboratories of the Lister Institute and the dietary departments of St. Bartholomew's and St. Thomas' Hospitals. At these two hospitals the dietitians are Miss Abrahams and Miss Broatch, respectively, both of whom, while in the United States for travel and study, were students in this department. At St. Bartholomew's Hospital, Professor MacLeod met two of Miss Abrahams' student dietitians who have since come to the United States and are spending this semester studying in the department and visiting hospitals in this part of the country.

Miss Clara M. Taylor also spent the summer in the British Isles. She attended the three weeks' summer session at Oxford University and visited the laboratories of Dr. Mellanby at Sheffield University Medical School and of Dr. Coward at the Pharmaceutical Society of Great Britain, in London.

Miss Taylor and Professor MacLeod served October 6 and 7, respectively, on the Committees of Judges for the Grocers' Window Display Contest at the Bellevue-Yorkville Health Demonstration Center and the East Harlem Health Center. This year the grocers were asked to display "Good Foods for Better Teeth." The windows were scored on food value, educational value, originality, popular appeal, neatness, and cleanliness. The workers in these centers feel that the interest of the grocers in making these window displays is a great aid in disseminating food information to the community.

Miss Dorothy E. Williams has joined the staff of the department this year as research assistant. Miss Williams is a graduate of Mount Holyoke College, has the Master's degree from the University of Wisconsin, and has taught zoölogy and physiology at Connecticut College for Women, at the University of Madras, and at Mount Holyoke College.

PHILOSOPHY OF EDUCATION

Professor William H. Kilpatrick addressed the New Hampshire State Teachers Association in Laconia on October 17. He lectured and conducted seminar discussions at the Fifth Anniversary Conference of the Parents' Council of Philadelphia on October 23, and spoke to the Art Students' Guild in Ridgewood, N. J., on October 8.

Dr. J. L. Childs has been promoted to the rank of assistant professor. His book, *Education and the Philosophy of Experimentalism* has recently come from the press of the Century Company.

Miss Marion Y. Ostrander, who spent last year in Japan with the Laymen's Foreign Missions Inquiry, has returned to her work in the department.

SECONDARY EDUCATION

In the *Junior-Senior High School Clearing House* for September Profes-

sor Thomas H. Briggs wrote the introduction for a series of articles on great teachers. The first one presented is on Moses Woolson of the Boston English High School, as reported by Louis Sullivan in *The Autobiography of an Idea.*

Professor Briggs addressed the annual conference of the Teachers Union Auxiliary at Lake Hopatcong, N. J., October 2. His subject was *Caviling at Complacency.* This paper, which was originally presented before the Summer Session meeting of Phi Delta Kappa, was published in the October number of the *Junior-Senior High School Clearing House.*

During the Summer Session the men students in the department of Secondary Education had five luncheons at the Men's Faculty Club. The speakers at the first four were, respectively, Dean William F. Russell, Professor William C. Bagley, Norman Thomas, and Dr. Edward T. Devine, former professor of sociology in Columbia, who is now engaged in social service work. At the fifth meeting a student program was presented featuring Messrs. Lloyd N. Morrisett, Harold Spears, Robert Anderson, Marshall E. Born, and Will French.

Professor Elbert K. Fretwell addressed the Parent-Teacher Association of Albany, N. Y., September 8. The same address, "New Ideas in Old Classrooms," was made two days later to the teachers of Morristown, N. J.

Education 335P, The Principles of Secondary Education, given by Professor Briggs, and Education 335H, Problems in Secondary School Administration, given by Professor Grayson N. Kefauver, are offered for the first time to students in the Winter Session. Previously these courses were offered only during the Summer Session.

Professor Percival M. Symonds had an article in the July 11 issue of *School and Society,* entitled "The Contribution of Research to the Mental Hygiene Program of the School." This was a paper presented February 24 at the meeting of the American Educational Research Association in Detroit.

Three hundred fifty-four men and women enrolled in Education s236M, the major course for high school principals, during the past Summer Session. There were students in this class from all but five of the states in the Union.

Professor Fretwell addressed the teachers and school administrators attending the institute of Androscoggin and Oxford Counties, Me., October 5 and 6.

The National Education Association Research Bulletin for March, 1931, "The Principal at Work on His Problems," carries on its back cover the following quotation from Professor Briggs's *The Great Investment*: "School people are limited in competence not so much in the details of their jobs as in a large comprehension of their significance. In other words, like the lay public, they need more than anything else an understanding of what education is for, of the ends that it is supported to achieve."

In May, Professor Briggs was appointed a member of the Board of Education of Yonkers, N. Y. As chairman

of the Finance Committee he has responsibility for preparing a budget of nearly five million dollars for 1932-33.

Professor Fretwell addressed the Northeastern Iowa Teachers Association meeting at Dubuque, Iowa, October 8 and 9.

A total of thirty-four persons—twenty-eight men and six women—from sixteen states and three foreign countries, is enrolled in the major course for high school principals for the Winter Session.

Professor Maxie N. Woodring met with a group of Pennsylvania teachers at Pottsville October 20 and 21. The subjects discussed were: "Every Child Has a Right to Succeed"; "Diagnosis as a Basis for Directed Learning"; "Directed Learning Techniques"; and "Unit Assignments."

At the institute of the Port Arthur, Tex., schools, September 7 to 11, all groups of secondary school teachers discussed the special functions of secondary education as affecting the subject matter and methods in their respective fields.

The Connecticut State Teachers Association had as one of its speakers Professor Woodring, who discussed "Diagnosis for Better Teaching" with the teachers of Hartford and Norwich.

The XYZ Group met twice during the Summer Session. A discussion of the problems related to the teaching of English was presented by Professor Symonds at the first meeting. Miss Virginia Block presented a short paper on character education, as a basis for the discussion at the second meeting.

Mrs. Genevieve D. Braun is Professor Briggs's new secretary. Mrs. Goodkind, who has been secretary to Professor Briggs for several years, has resigned to continue as a student in Barnard College.

Professor Kefauver spent the early part of September in Washington working on the National Survey of Secondary Education.

Mr. Einar W. Jacobsen, now assistant superintendent of schools in Oakland, Calif., has completed his work for the Doctor's degree. His dissertation, "Educational Opportunities Provided for Postgraduate Students in Public High Schools," written under the sponsorship of Professor Kefauver, will be published by the Bureau of Publications, Teachers College.

Professor Briggs, who consistently maintains that an important measure of one's education is the number, depth, and extent of one's interests, arranged during the Summer Session for students in the major course for training high school principals, two series of lectures on art and natural history, including visits to the Metropolitan Museum of Art and the American Museum of Natural History. Dr. Huger Elliott, director of educational work at the Metropolitan, lectured on "Present-Day Painting," "Composition" and "Sculpture." After the lectures Dr. Elliott conducted students to various parts of the Museum to illustrate further the points discussed in his lectures. The lectures at the American

Museum of Natural History were given by R. Cushman Murphy, curator of oceanic birds; James L. Clark, in charge of preparation and exhibition; and Miss Dorothy A. Bennett, staff assistant in the education and publication department.

Mr. Hollis M. Long has completed his dissertation and the requirements for the doctorate. His dissertation on "Public Secondary Education for Negroes in North Carolina" was written under the sponsorship of Professor Kefauver.

The first of the Thursday Afternoon Informals opened with Professor Fretwell presiding. Prizes, the special honor of being allowed to put away the tea cups, were awarded to several who knew the largest number of people before the tea was over. At the second Informal Professor Eleanor Witmer, acting head of the Teachers College Library, described the general plan of the Bryson Library, the method of getting books, and the unique opportunities offered by the Library to students. On Thursday, October 8, Mr. Herbert J. Arnold, teacher of general science at the Lincoln School and an instructor in Teachers College, gave a very interesting lecture on "Geological Formations In and Around New York." The following Sunday a hike across upper Manhattan and along the Palisades was conducted by Mr. Arnold.

The advanced class in secondary school administration was conducted by Professor Kefauver and Mr. Hand in a rather unique manner during the Summer Session. Instead of general assignments to the class followed by the usual class discussions and lectures, each student selected one major and several minor problems for individual research. Professor Kefauver and Mr. Hand were available during the class hour for individual conferences on these problems. The best of the major reports were mimeographed, bound in one volume, and made available to students in the class. These reports served as a basis for the class discussions held during the last week only. This first volume contains reports on seventeen problems representing the combined and individual efforts of twenty-seven students.

Professor Briggs spoke this fall before the Eastern Illinois State Teachers Association, the Eastern District of the New York State Teachers Association, and the South Piedmont Section of the North Carolina State Teachers Association.

Professor Symonds attended the annual meeting of the American Psychological Association held in Toronto from September 10 to 12.

SPEECH

Professor Azubah J. Latham has returned to the college after her sabbatical leave which she spent in New England and the South. Most of her time was occupied in getting textbooks and studies ready for publication.

Mrs. Jane D. Zimmerman has returned from a two months' visit to University College in London where she has been doing some speech work with Mr. Jones. She has also been doing research in phonetics.

STATISTICS

Dr. Egon S. Pearson, Senior Lecturer on Statistics in University College of the University of London, delivered five lectures on statistical method at Teachers College during the week of May 1. These lectures attracted a good many visitors from other educational institutions and from the world of finance and industry. The college gave a tea on May 6, and several members of the faculty entertained in Dr. Pearson's honor. During the summer Dr. Pearson lectured on statistics in the University of Iowa at Iowa City.

Dr. R. A. Fisher of the Rothamsted Agricultural Station at Harpenden, England, was here June 1 for one lecture in which he discussed statistical methods and experimental research. Dr. Fisher, who is one of the foremost writers on the mathematical theory of statistics in the world to-day, was en route to the Middle West, where he taught at the Iowa State College of Agriculture at Ames during the first half of the summer and at the University of Minnesota during the second half.

The death of Mr. Robert Mendenhall the last of May brought sorrow to all those who had been associated with him. For two years Mr. Mendenhall had taught the laboratory sections of the classes in elementary educational statistics and was greatly liked by the students for the clarity of his exposition, his graciousness, and his inexhaustible patience.

The statistical laboratory has recently received a number of interesting gifts from members of the statistics classes. Noteworthy among these is a framed motto illuminated on vellum with the words of Sir Francis Galton: "Statistics are the only tools by which an opening can be cut through the formidable thicket of difficulties that bars the path of those who pursue the Science of Man." This is the work of Miss Harriet Shoen, who offered to make a motto for the laboratory because she "had had so much fun with the machines." This motto has attracted a good deal of attention because of its fine workmanship and because of the sense of humor of the designer, which prompted her to make clever use of statistical formulas in the illuminations.

Mr. and Mrs. Walter Durost are the inventors of a three-dimensional model to demonstrate the meaning of partial correlation. The model consists of seven sheets of plate glass on each of which is shown the distribution of height and weight for boys of a given age, the age varying from plate to plate. These sheets are placed one above another in a box specially constructed to provide illumination which will show the various regression lines and surfaces. This model, which makes the meaning of partial correlation very clear, is to be seen in the laboratory. A number of other models and one or two cartoons made by last year's students are also on display there.

At a special dinner meeting of Professor Henry A. Ruger's class, Education 422 Tx, a copy of the rare volume by Todhunter on *The History of Probability*, was given to Professor Ruger, as a token of appreciation of these advanced students who have been working with him for the last two or three years. Inscribed in the book were the following sentiment and signatures:

To Henry A. Ruger: He that teaches us anything which we knew not before, is undoubtedly to be reverenced as a master.

He that conveys knowledge by more pleasing ways, may very properly be loved as a benefactor.

(*Signed*)	Jack W. Dunlap
Helen M. Walker	Estelle De Y. Barr
Ella Woodyard	Warren G. Findlay
Irving D. Lorge	Aaron Bakst
Robert T. Rock, Jr.	Edward E. Cureton

MARY BROWNSON GILLMORE

Mary Brownson Gillmore, who was for twenty-nine years a teacher in the Horace Mann School, died in New York City, August 4, 1931, in her sixty-fifth year. Since her retirement from active teaching in 1921, she had suffered steadily increasing invalidism, which she had borne with unshaken fortitude, maintaining to the end her quiet humor and her resolute philosophy of life.

Miss Gillmore was, professionally, a fine example of the fruition of the ideals dominating the early days of Teachers College.

She received the Certificate of the College in 1891. After a year of primary school teaching, she was appointed, in 1892, instructor in The Horace Mann School, where she taught in grades five to eight until her appointment, in 1900, as teacher of history in the high school. Meanwhile, through study at Barnard and a sabbatical year spent at Cornell, she won the degree of Ph.B. (Cornell) in 1899. Her studies were further enlarged by graduate courses, through a number of years, in Columbia University, and by summers spent in foreign travel.

As a history teacher, Miss Gillmore will long be remembered by the older graduates of Horace Mann School for the high standard of scholarship to which she held both her pupils and herself. Those who completed a course with Miss Gillmore had not alone an accurate and ordered knowledge of the historical period covered, but a breadth of view seldom attained except in the better college courses. But she was not only a teacher of her subject. Her pupils learned that they could rely on her friendliness, her impartiality, her human wisdom. She was a real power in the administration of the school; she was so clear-headed and far-sighted that her advice in matters of school management was constantly sought. Her colleagues of those days will recall many a shining pedagogical bubble that was deflated by her quiet wit, many a tempest that was stilled by her fairness and good sense.

Those who have known Miss Gillmore since her retirement from teaching will remember her pleasure in the gardens and the friendly companionship of the Country Club; her wide range of interests and information; her courage in the face of increasing disabilities. One of her friends writes: "I always came away from that little room with a new zest for life. She was interested in so many things, and she was always so much fun."

If one sought to name a controlling force in Miss Gillmore's life, it would not be far amiss to call it intellectual integrity. This sense of integrity—a calm, penetrating view and acceptance of the truth—governed her teaching, directed her judgment in school affairs, and informed her last years with a philosophy of life that enabled her to accept cheerfully the years of suffering and the inevitable end.

BUREAU OF EDUCATIONAL SERVICE

The following list continues the changes in positions reported by the Bureau of Educational Service in the October RECORD:

Dean, Marjorie, from instructor in general science, Fulton School, Toledo, Ohio., to instructor in general science and English, Franklin Junior High School, Highland Park, N. J.

De Bolt, Edgar, from instructor in mathematics, South Brownsville High School, South Brownsville, Pa., to instructor in mathematics, High Bridge High School, High Bridge, N. J.

Denniston, Dorothy, from instructor in physical education, State Normal School, Bridgewater, Mass., to director of health and physical education, Public Schools, Battle Creek, Mich.

Desmond, John F., from teacher of Latin, Xavier High School, New York City, to teacher of English, Mechanic Arts High School, Boston, Mass.

Dickinson, Henry B., appointed instructor in biology, Shady Hill School, Cambridge, Mass.

Dix, Ruth, appointed head of home economics department, Flandreau Indian School, Flandreau, S. D.

Dodson, Emma L., from teacher of home economics, Punahou School, Honolulu, T. H., to clothing specialist, Cornell University, Ithaca, N. Y.

Doughty, Grace, from co-director, summer nursery group, Clark Neighborhood House, New York City, to director and instructor, nursery school, Alabama Institute of Technology, Auburn, Ala.

Dove, Ruth, from nursery school director, Recreation Rooms and Settlement, New York City, to second grade teacher, Garrett-Pickett School, New York City.

Dover, Placide, from second grade teacher, Jefferson School, Cape Girardeau, Mo., to first grade teacher, Roslyn Public Schools, Roslyn Heights, L. I.

Dow, Grace A., from teacher of speech and English, Nasson Institute, Springvale, Me., to teacher of English, high school, Ellicott City, Md.

Dowling, Thomas I., from director of natural sciences, Parker School District, Greenville, S. C., to teacher of junior high school science, Central Junior High School, New Rochelle, N. Y.

Dreese, Mitchell, from director of personnel and assistant professor of vocational guidance, Grinnell College, Grinnell, Iowa, to assistant professor of education, George Washington University, Washington, D. C.

Dubois, Frank A., from superintendent of Public Schools, Silver Creek, N. Y., to teacher of science, Lower Merion High School, Ardmore, Pa.

Dunlap, Jack W., appointed professor of measurements and psychology, Fordham University, New York City.

Dunn, Harriet M., appointed teacher of speech correction, Public Schools, Pittsburgh, Pa.

Dunser, Anna, from instructor in art, St. Genevieve's, Asheville, N. C., to critic teacher in industrial arts, State Normal School, Geneseo, N. Y.

Dunsmore, Frank H., from head of music department, Fremont Union High School, Sunnyvale, Calif., to instructor in music, Public School No. 6, Greenburgh, N. Y.

Dorr, Esther, from assistant nursery school director, Bethlehem Day Nursery, New York City, to nursery school director, Fitch Creche School, Buffalo, N. Y.

Dutting, Katharine R., from director of health education, State Normal School, Cheney, Wash., to executive secretary in health education department, Public Schools, Newburgh, N. Y.

Earl, Mrs. Mildred (Schnoop), from sixth grade teacher, Roosevelt School, New Rochelle, N. Y., to assistant principal of elementary grades, St. Nicholas School, Seattle, Wash.

Earle, Frances M., appointed assistant professor of geography, University of Washington, Seattle, Wash.

Easton, A. Jean, appointed teacher of music, Public Schools, Smyrna, Del.

Elledge, Clara, from instructor in music, Washburn College, Topeka, Kan., to instructor in public school music, Bowling Green, Ky.

Elliot, Robert G., from assistant director of physical education, High School of Commerce, Springfield, Mass., to instructor in health education, State Teachers College, East Stroudsburg, Pa.

Engel, Annie Mae, from assistant, School of Journalism Library, Columbia University, New York City, to teacher of United States history and civics, and assistant librarian, Junior High School, Lindenhurst, N. Y.

Eppes, Mamie, from principal-teacher, Public Schools, Nassau County, L. I., to supervisor and teacher of grammar grade education at East Carolina Teachers College, Greenville, N. C.

Erb, Doraldo, from teacher of fine arts and English, Highland Manor Summer School, North Sebago, Me., to teacher of fine arts, Hillsdale High School, Hillsdale, N. Y.

Erdahl, Gladys B., appointed instructor of history, Washington High School, Boundbrook, N. J.

Ervin, Ann, from director of physical education, Shepherd College, Shepherdstown, W. Va., to instructor in physical education, Hollins College, Hollins, Va.

Essex, Don L., appointed assistant, Division of School Buildings and Grounds, New York State Department of Education, Albany, N. Y.

Ewing, Irene, from director of music, Shawnee Mission High School, Merriam, Kan., to instructor in junior high school music, Louisville, Ky.

Fagin, Elizabeth, from instructor in art, John Burroughs Junior High School, Los Angeles, Calif., to instructor in fine arts, Skidmore College, Saratoga Springs, N. Y.

Fair, Eugene, Jr., from assistant in normal school education, Teachers College, Columbia University, to teacher of upper grades, Children's Village, Dobbs Ferry, N. Y.

Fair, Mrs. Jessie C., appointed teacher of lower grades, Children's Village, Dobbs Ferry, N. Y.

Farnham, Frances, from principal of the Halsted School, Yonkers, N. Y., to assistant principal, Packer Collegiate Institute, Brooklyn, N. Y.

Feaster, Dorothy, from teacher of dramatics and public speaking, High School, Keene, N. H., to teacher of English and auditorium work, High School, Mount Vernon, N. Y.

Fee, Ruth, from supervisor of music, Dallas Center, Iowa, to music instructor, Public Schools, Hempstead, L. I.

Ferris, Ruth G., from seventh grade teacher, Public Schools, Cranford, N. J., to sixth grade teacher, Public Schools, East Orange, N. J.

Field, Helen A., appointed director of junior high school grades, Ojai Valley School, Ojai, Calif.

Filsinger, Elmer, from instructor in science, Nyack Junior-Senior High School, Nyack, N. Y., to instructor in physics and general science, Manhasset High School, Manhasset, L. I.

Findley, Cleo, from director of dormitory, Colorado State Teachers College, Greeley, Colo., to vocational guidance counselor, High School, New Brunswick, N. J.

Fischer, Mildred, from dean of women, State Teachers College, Mansfield, Pa., to dean of women, State Teachers College, West Chester, Pa.

Fitzgerald, Sadie, from fifth grade teacher, Polytechnic Elementary School, Pasadena, Calif., to fourth grade critic, State Normal School, Bellingham, Wash.

Flinn, Charles E., appointed vice-principal, Junior High School, Watertown, N. Y.

Flowers, Clarissa, from first grade teacher, Mayfair Public School, East Cleveland, Ohio, to primary teacher, Public Schools, Mountain Lakes, N. J.

Ford, Merle, from teacher of boys'

homecrafts, Central High School, Tulsa, Okla., to assistant supervisor of home economics, Baltimore, Md.

Fox, Norma, from supervisor of penmanship, Lincoln School, Carbondale, Ill., to instructor in fine arts, Public Schools, Lansing, Mich.

Frank, May C., from instructor in household equipment, Iowa State College, Ames, Iowa, to instructor in housing and equipment, University of Nebraska, Lincoln, Neb.

Franks, Milford, appointed principal, Christobal High School, Panama Canal Zone.

Franz, Gerard E., from instructor in biology, John Adams Senior High School, Cleveland, Ohio, to instructor in biology and chemistry, High School, Linden, N. J.

Fraser, Mowat G., appointed to field study of "Pressure Groups and American Education," American Historical Association, Carnegie Foundation, New York City.

Frater, Frances, from director of speech, State Normal School, Ellensburg, Wash., to teacher of English, Junior College, Sacramento, Calif.

Frederick, Victoria, from assistant to dean of women, New Jersey College for Women, New Brunswick, N. J., to dean of women, State Teachers College, Mansfield, Pa.

French, Eleanor, appointed Secretary of Y. W. C. A., Ohio State University, Columbus, Ohio.

Fuller, Ruby M., from teacher of English, Horace Greeley School, Chappaqua, N. Y., to teacher of English, High School, Warrensburg, N. Y.

Gale, Jane, from instructor in art, Point Loma High School, San Diego, Calif., to instructor in art, Lake Erie College, Painesville, Ohio.

Galphin, G. C., appointed principal of High School, Hammonton, N. J.

Gane, Sally, from health education instructor, Southwestern High School, Detroit, Mich., to director of physical education, Santa Barbara Girls' School, Santa Barbara, Calif.

Garrett, Sallie, from primary supervisor, Public Schools, East Chicago, Ind., to primary training teacher, Oberlin Kindergarten-Primary Training School, Oberlin, Ohio.

Garrison, Greta, from second grade teacher, Massachusetts Avenue School, Atlantic City, N. J., to first grade teacher, Ethical Culture School, Brooklyn, N. Y.

Garrison, Noble Lee, from professor of education, State Normal School, Florence, Ala., to professor of education, Michigan State Normal College, Ypsilanti, Mich.

Gehri, Lillian, from kindergarten director, Glover School, Akron, Ohio, to nursery school teacher, Bethlehem Day Nursery, New York City.

Gehrke, Charlotte P., from assistant instructor in costume design, School of Industrial Art, Philadelphia, Pa., to instructor in clothing, New Jersey School for the Deaf, Trenton, N. J.

Gellerman, William, from principal, High School, Renton, Wash., to superintendent of schools, Kent, Wash.

Gemeinhardt, Laurence, from German instructor, Columbia University, New York City, to German instructor, Wesleyan University, Middletown, Conn.

Gentis, Lorraine, from instructor in physical education, Ruffner Junior High School, Norfolk, Va., to instructor in physical education, High School, East Orange, N. J.

George, Marvin, from instructor in music, Junior High School, Bowling Green, Ohio, to instructor in instrumental music, State Teachers College, Morehead, Ky.

Gillies, Catherine, from sixth grade teacher, Riverside School, St. Charles, S. C., to fifth grade teacher, Public Schools, Oyster Bay, L. I.

Gladfelter, Katharine E., from director of young people's work, Presbyterian Board of National Missions, New York City, to assistant secretary in division of

schools and hospitals, Presbyterian Board of National Missions, New York City.

Going, Vera, from supervisor at Northrop Collegiate School, Minneapolis, Minn., to primary teacher, Beacon School, New York City.

Goodwine, Lucy V., from teacher of history and geography, Junior High School, Valhalla, N. Y., to teacher of civics, High School, Patchogue, N. Y.

Gordon, Mary Agnes, appointed instructor in psychology, University of Kentucky, Lexington, Ky.

Gorman, Vinsen, from teacher of English, Hoover High School, Oakland, Calif., to head of English department, Junior-Senior High School, Stratford, Conn.

Graham, Morton, from French and Spanish teacher, Princeton Preparatory School, Princeton, N. J., to French, Spanish, and physics teacher at Mohonk School, Mohonk Lake, N. Y.

Gray, Margaret J., from grade teacher, public schools, Hempstead, L. I., to instructor in industrial arts, Public Schools, Muskegon, Mich.

Gray, Ruby C., from teacher of health and physical education, High School, Middletown, N. Y., to teacher of health and physical education, Public Schools, Glens Falls, N. Y.

Gray, Ruth M., from teacher of art, Junior College, Albia, Iowa, to teacher of art and history, High School, Morristown, N. J.

Green, Eleanor V., from nutritionist, Judson Health Center, New York City, to teacher of health (nutrition), Baldwin School, Baldwin, L. I.

Greenberg, Mildred, from instructor in physical education, Oregon State College, Corvallis, Ore., to instructor in physical education, Smith College, Northampton, Mass.

Grumbein, Dorothy, from special class teacher, Hoskins School, Chester, Pa., to special class teacher, Public Schools, Madison, N. J.

Hackett, Frederick W., appointed associate headmaster, Country Day School for Boys of Boston, Newton, Mass.

Hamilton, Sallye, from home demonstration agent, Anniston, Ala., to educational director, Wheatsworth, Inc., Hamburg, N. J.

Hamilton, Velma, from teacher of clothing, South Junior High School, Everett, Wash., to instructor in clothing, Indiana University, Bloomington, Ind.

Hamlin, Madge Sills, from teacher of sixth grade, The Spence School, New York City, to teacher of social studies, Horace Mann School, Teachers College, New York City.

Handy, Etta H., from director of women's dormitories, Stanford University, Calif., to foods research worker, General Foods Company, New York City.

Hanyen, Jennie, from assistant professor of home economics, Elmira College, Elmira, N. Y., to assistant professor of home economics, Meredith College, Raleigh, N. C.

Hartley, Elizabeth, from instructor in biology and physical education, Atwood High School, Atwood, Kan., to director of physical education, State Home for Girls, Trenton, N. J.

Hartley, Jane Gladys, from assistant in food chemistry, Columbia University, to assistant professor of nutrition, University of Arizona, Tucson, Ariz.

Hartman, Hazel, from instructor in fine arts, State Teachers College, Fresno, Calif., to instructor in art, Kamehameha Schools, Honolulu.

Haskins, Natalie, from director of kindergarten, Kensington School, Grand Rapids, Mich., to director of kindergarten, Public Schools, Bronxville, N. Y.

Hassell, Marjorie S., from teacher of English, Highland Park High School, Dallas, Tex., to teacher of English, High School, Boundbrook, N. J.

Hatcher, Flora Y., from teacher of English, Antauga County High School, Prattville, Ala., to business secretary,

Young Women's Christian Association, Atlanta, Ga.

Hauck, Arthur A., from assistant to president, Vassar College, Poughkeepsie, N. Y., to dean, Lafayette College, Easton, Pa.

Hay, George A. F., from principal, High School, Webster Groves, St. Louis, Mo., to principal, Senior High School, Ridgewood, N. J.

Haynes, Vivien, from third grade teacher, Birch-Wathen School, New York City, to grade teacher, Hessian Hills School, Croton-on-Hudson, N. Y.

Heldman, John, from instructor in physical education, Sandusky, Ohio, to instructor and coach in physical education, Connecticut Agricultural College, Storrs, Conn.

Heller, Hobart F., from instructor in mathematics, Coughlin High School, Wilkes-Barre, Pa., to teacher of mathematics, Eastern Illinois State Teachers College, Charleston, Ill.

Henderson, J. Hugh, appointed assistant director of research, State Department of Public Instruction, Harrisburg, Pa.

Henninger, Elizabeth, from teacher of English and geography, Emerson Junior High School, Enid, Okla., to instructor in English, Stephens College, Columbia, Mo.

Herrington, Evelyn, from head of foods department, Andrews Institute, Willoughby, Ohio, to teacher of home economics, Junior High School, Valhalla, N. Y.

Hersey, Carlotta, from principal, The Cannon School, New Haven, Conn., to assistant kindergarten teacher, Lincoln School, Teachers College, New York City.

Hesh, Morris F., from instructor in industrial arts, Bluffs High School, Bluffs, Ill., to instructor in shop work and industrial arts, Westport Junior High School, Westport, Conn.

Hibbard, Margery V., from parish assistant, Church of the Ascension, Rochester, N. Y., to children's work director, Church of the Holy Trinity, New York City.

Higgs, Elizabeth, from kindergarten teacher, Ramapo Valley Day School, Suffern, N. Y., to first grade teacher, Oak Lane Country Day School, Philadelphia, Pa.

High, Leon C., from principal, Teaneck High School, Teaneck, N. J., to principal, Great Neck High School, Great Neck, L. I.

Hile, Dorothea M., from instructor in physical education, Goucher College, Baltimore, Md., to instructor in physical education, Birch-Wathen School, New York City.

Hill, Alice R., appointed teacher of history, Dumont High School, Dumont, N. J.

Hilleboe, Guy L., from director of child development and parental education, State Teachers College, Albany, N. Y., to director of elementary education, Public Schools, Elizabeth, N. J.

Hittle, Vera L., from principal of high school, Normal Training High School, Marcus, Iowa, to teacher of home economics, High School, Great Neck, L. I.

Hodges, Elmer E., from instructor in mathematics, Elizabeth City High School, Elizabeth City, N. C., to teacher of mathematics, Tenafly High School, Tenafly, N. J.

Hoehne, Hildegarde, from second grade teacher, Glenfield Public School, Montclair, N. J., to kindergarten director, Public Schools, Orange, N. J.

Holliday, Margaret H., from language teacher in the High School, Okmulgee, Okla., to French teacher, Central High School, Minneapolis, Minn.

Horst, Elmer, appointed instructor in science, Woodmere Academy, Woodmere, L. I.

Hoskins, Beatrice, from second grade teacher, Rye Country Day School, Rye, N. Y., to second grade teacher, Public Schools, Manhasset, L. I.

[*Continued in December Record*]

ALUMNI NOTES

TEACHERS COLLEGE ALUMNI ASSOCIATION OFFICERS

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Alumni Office: Teachers College, 525 West 120th Street, New York City.

Address all communications to MARGARET E. SOBER,
General Secretary of Alumni Association, Teachers College, New York City.

Lou A. Shepherd (A.M. 1924) has written a book entitled *A Plan for Teaching Language and Literature*, published by the Wallace Publishing Co.

Myrtle LeCompte (A.M. 1927) is dean of women, Cottey Junior College for Women, Nevada, Mo.

W. W. Carpenter (Ph.D. 1926) is co-author with Ralph Yakel of a study outline for students of state and national administration, entitled *State and National School Administration.*

Lillian E. Rogers (B.S. 1912) is principal of Friends West Philadelphia School, Philadelphia, Pa.

Elizabeth F. Schellenger (A.M. 1920) is teaching in the public schools of Pasadena, Calif.

Richard Allen Foster (Ph.D. 1929) is associate professor of English, Ohio University, Athens, Ohio, and the author of "The School in American Literature," which was reviewed in *American Literature*, May, 1931, *Elementary School Journal*, May, 1931, and *Journal of Educational Research*, April, 1931.

Camilla B. Fulper (B.S. 1929) is director of the School of Nursing, E. S. Magee Hospital, Pittsburgh, Pa.

Marjorie Rankin (Ph.D. 1930) has been conducting on an activity basis in the Nankai Primary School since 1929, an experiment started for Dr. Chang Po-ling, the principal of Nankai University and Middle School, Tientsin, China.

Paul W. Stoddard (A.M. 1928), whose coining of the word "booksneaf" to denote the chronic book-borrower has aroused wide editorial comment throughout the country, has been, since 1930, a member of the English department in the Summer Session faculty of Teachers College, Columbia University.

Ernest G. Ham (Summer Session

1927) has completed successfully his sixth year as superintendent of schools, Springfield, Vt.

Edith Sauer (B.S. 1929) is principal of Kensington Avenue School, Springfield, Mass.

William T. Longshore (A.M. 1928) is co-author of an article on "Democratic and Coöperative Supervision," published in the *Tenth Yearbook* of the Department of Elementary School Principals of the National Education Association.

Charles F. Allen (A.M. 1924) has collaborated in the completion of the Allen, Bixler, Murphy Series, English workbooks published by Smith-Hammond Co., Atlanta, Ga.

Joe Jennings (B.S. 1921) will be the superintendent of education on the Pine Ridge Reservation in South Dakota, where there are nearly eight thousand Indians, and where the United States Government maintains twenty-six day schools and one boarding school.

J. Arthur Anderson (A.M. 1929) has been made superintendent of education in the Turtle Mountain-Fort Totten jurisdiction in North Dakota.

Hirsch L. Gordon (A.M. 1926) was awarded the degree of Doctor of Letters at the University of Rome, July 10, 1931.

Allen P. Burkhardt (M.A. Summer Session 1929) has been elected superintendent of schools, Norfolk, Neb.

Lorena J. Lewis (M.A. 1929) is junior high school principal, Norfolk, Neb.

Agnes Tilson (Ph.D. 1929) is specialist in parent education, Merrill-Palmer School, Detroit, Mich. Miss Tilson taught at the University of Colorado, Boulder, Colo., during the first term of the 1931 summer session.

William McKinley Robinson (M.A. 1919) spent the summer in Mexico studying the development of the Federal Rural School System. Mr. Robinson is director of the department of rural education, Western State Teachers College, Kalamazoo, Mich.

Myrtle Shepard (M.A. 1930) is second grade critic in the training department, Kent State College, Kent, Ohio.

Laura E. Hill (M.A. 1930) is sixth grade critic in the training department, Kent State College, Kent, Ohio.

D. T. Ferrell (M.A. 1926) is professor of rural education, E. Kentucky State Teachers College, Richmond, Ky.

Elizabeth L. Graesser (M.A. 1929) is teacher of German and in charge of the German department, Spring Valley High School, Spring Valley, N. Y.

A. R. Mead (Ph.D. 1917), head of the department of education, Ohio Wesleyan University, Delaware, Ohio, has been granted a leave of absence for the coming college year to enable him to join the staff of the University of Florida so that he may organize a laboratory school for the College of Education.

Bertha Louise Campbell (B.S. 1926) has been appointed a term worker under the American Board of Commissioners for Foreign Missions in the American Junior College for Girls, Athens, Greece, where she will serve as dietitian and house matron. For the past five years Miss Campbell has been dietitian at Hunter College, New York City, where she also taught courses in foods and elementary dietetics.

Mitchell Dreese (Ph.D. 1929) has been appointed to a newly created assistant professorship in the department of education, George Washington University, Washington, D. C. Dr. Dreese was director of personnel at Grinnell College, Iowa.